

REPORT 4

BESPOKE ENVIRONMENTAL PERMIT APPLICATION

SUMMARY ENVIRONMENTAL MANAGEMENT SYSTEM

King's Dock Swansea

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1 INTRODUCTION

Glass Tech Recycling Ltd (Glass Tech) wishes to recycle waste at King's Dock, Swansea (see Figure 1 and Figure 2). The operation will principally involve the recovery of glass waste. Such waste operations require a Permit from Natural Resources Wales (NRW). NRW has advised that a bespoke Permit is required. One of the conditions of holding such a Permit is that a written environmental management system (EMS) must be in place once the site is operational.

An Environmental Management System (EMS) is a structured system which, once implemented, helps an organisation to identify the environmental impacts resulting from its business activities. It also helps manage and reduce those impacts, so that the environmental performance of the organisation is improved. An EMS should provide a methodical approach to planning, implementing and reviewing an organisation's environmental management.

Under the Environmental Permitting Regulations, Glass Tech is required to have an appropriate EMS in place while it is holding a Permit. The EMS must set out in detail, how all the activities relating to the Permit, and specifically waste management and pollution control will be managed.

At this stage of the application process, NRW require a summary of the management system to be in place when the site is operational. By the time the Permit is issued, NRW will expect Glass Tech to have the management systems in place as it will be part of the first NRW site inspection.

Central to the EMS will be a set of Procedures and Standard Forms which will need to be implemented when the site is operational. In this summary EMS, the range of procedures that will be required are detailed and the type of forms that will be implemented are provided. The system to be implemented will be very similar to the system successfully implemented at the Glass Tech facility in Llandarcy (Standard Rules Permit No EPR/YP3795VF/A001). As Glass Tech will process waste to produce aggregates, a Factory Production Control system will also be in place when the site is operational.

1.1 Objectives

Glass Tech already successfully operates an integrated management system produced to achieve the benefits from management system standards ISO9001:2008 and ISO14001:2004.

A bespoke EMS will be in place covering the proposed operations. This site specific EMS does not attempt to duplicate the procedures already documented in the integrated company EMS and which will also ultimately apply at the site. Rather, this summary EMS outlines the measures that will be adopted to ensure that the management of the waste is being controlled and risks to the environment managed.

2 APPROACH TO EMS

2.1 Awareness of Legal and Other Requirements

Glass Tech shall establish and maintain a procedure to identify and have access to current legal and other requirements that are applicable to the environmental aspects of its activities. This will be similar to the procedure provided in Appendix 1.

The environmental management representative will consider all legislative requirements that have been identified as being applicable to the sites environmental aspects, and will ensure that all relevant aspects of the business are aware of the legislative responsibilities and requirements. A log of all currently applicable legislation will be maintained.

2.2 Environmental Objectives & Targets

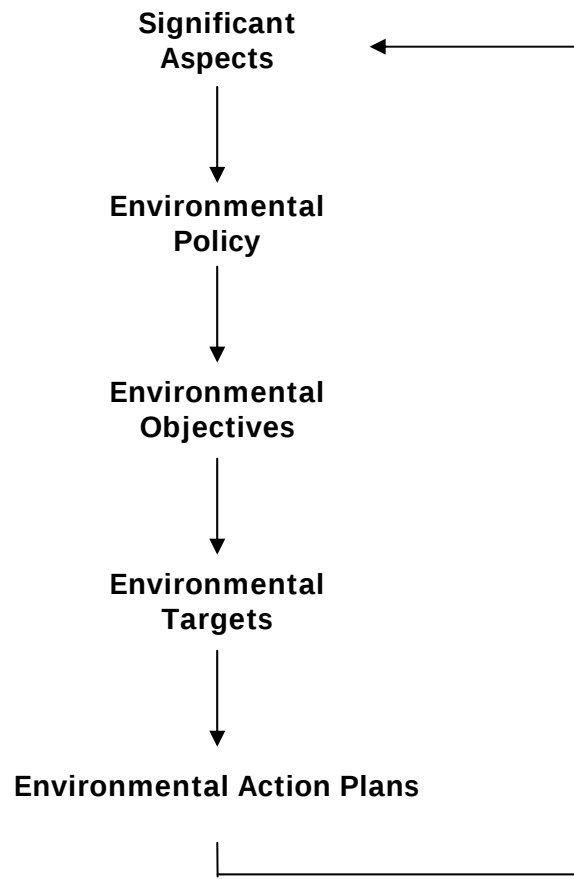
Glass Tech is committed to continual environmental improvement. To achieve this goal, Glass Tech will establish and maintain key environmental objectives and targets that are directly linked to its environmental aspects and environmental policy and that are achievable and, where practicable, may be quantified.

Objectives will be identified and defined as part of the ongoing evaluation of the sites environmental performance, legal requirements and Permit requirements. Implementation of the objectives and targets will be monitored by the environmental management representative, ideally on a monthly basis, to ensure acceptable progress and to help identify any additional resources or inputs that may be required.

Glass Tech recognises that the main way in which environmental improvements will be achieved and implemented is if their progress is planned and sufficient and timely resources are committed. Every environmental objective will have a documented programme behind it.

Each action plan will be assigned to designated personnel and clearly documented. The overall process to identify action plans is summarised overleaf.

Links between Significant Aspects and Action Plans



Action plans may be documented in different ways depending upon the type of objective, the range of personnel involved and its complexity. The environmental management representative will track the performance of the implementation of the objectives.

2.3 New Objectives

Glass Tech recognises that the processes used to treat waste at the site could change over time as the business develops and in response to external drivers. Should new waste types, new plant, equipment, processes and buildings be required, the environmental management representative will undertake a review of the planned changes and identify the environmental aspects that will require management during all phases of development and implementation. Such changes will likely result in new action plans being developed and possibly also Variations to the Permit.

3 SITE SPECIFIC EMS

3.1 Scope of EMS

The management system will need to reflect the environmental risks the waste operations pose to the environment and controls that will need to be in place. For this reason, the scope of the EMS will be directly linked to the Environmental Risk Assessment (see Report 3 Environmental Risk Assessment) for the site.

3.2 Exposure Pathways and Pollution Controls

The environmental risk assessment indicates that the proposed operations will not significantly adversely impact the environment provided the site is operated in accordance with a documented EMS. Some of the activities which will be need to be documented in the EMS are listed in Table 3-1 with the associated recording forms in Table 3-2. As each of these activities has the potential to impact the environment, each of these will be provided with a procedure and associated standard form, similar to those provided in Appendix 1 and Appendix 2 respectively.

Table 3-1 Some of the Procedures to be Documented in the EMS

Operation of processing plant
Operation of vehicles and materials handling plant
Storage of chemicals (COSHH)
Noise from site activities
Fire
Vehicle movements
Materials handling
Maintenance of plant, infrastructure and drainage
Storage of liquids e.g. diesel
Fuel Delivery and offloading
Refuelling of site vehicles and plant
Maintenance of vehicles and plant
Management of surface water run-off
Waste acceptance, placement and inspection
Non-compliant waste management
Management of Quarantine Area
Management of site drainage
Preventative Maintenance Programme - vehicles
Preventative Maintenance Programme - plant
Complaints Management
Product Management
Waste Transportation
Coordinating Site Visitors
Manual Sorting
Loading and Unloading Processing Plant
Stockpiling Waste
Stockpiling Products
Collecting Samples for Testing
Working around plant and vehicles
Personal Protective Equipment (PPE and RPE)
Refuelling Plant and Vehicles
Site Security
Method Statement of Production
Product Inspection and Testing
Product Handling and Storage
Product Non-Conformance
Evaluation of Environmental Aspects
Procedure for Ensuring Compliance with Environmental Legislation

Table 3-2 Some of the Forms to be Included in the EMS

Register of Environmental Aspects
Evaluation of Environmental Aspects under Normal Conditions
Evaluation of Environmental Aspects under Abnormal and Emergency Conditions
Register of Significant Environmental Aspects
Log of Environmental Legislation
Environmental Action Plan
Personnel Skills Matrix
Personal Training Record
Customer Complaint Form
Customer Complaint Log
Obsolete Document Register
Accident and Incident Record
Delegation of Responsibilities
Non-conformance corrective action
Job Specific Method Statements
Maintenance Checklist
Maintenance Record
Environmental Monitoring Records
Calibration Log
Audit Programme
Audit Report
Management Meeting Agenda
Management Meeting Minutes
Non-Compliant Waste Form
Register of Waste Deliveries Form
Daily Process Control Record Form
Product Non-Conformance Form
Register of Waste Deliveries
Record of Non-Compliant Wastes
Emergency Plan
Maintenance, Service, Calibration Schedule
Site Inspection Form
Emergency Drills

4 TECHNICAL COMPETENCE

Glass Tech recognises that an EMS should not be viewed in isolation as many aspects of the business can impact on the successful implementation of the EMS. Glass Tech also recognises that the role of the management representative is not to undertake all of the work required to implement the EMS. For this reason, Glass Tech will document the roles and responsibilities for all personnel. Key authorities and responsibilities will be defined, documented and communicated to all employees.

All employees will be made aware of their responsibility in achieving conformance with the environmental policy and the requirements of the EMS. Table 4-1 summarises the basic requirements for different levels of employees.

Table 4-1 Minimum expectations for Glass Tech Personnel

Title	Responsibility
Top Management	Define and approve issue of the environmental policy Nominate an environmental management representative Review the EMS at set intervals
Management	Provide sufficient resources essential to the implementation and control of the EMS
Management Representative	Ensure establishment of EMS and reporting on performance to the top management
Site personnel	Responsibilities are dependent upon their role

4.1 Operator Competence

Glass Tech recognises that to operate under a Permit, trained and competent staff are required. On this basis, Technically Competent Persons (TCP) will coordinate compliance with the Permit, implement the EMS and coordinate new procedures when required. Appendix 3 contains a copy of the Continuing Competence Certificate for the relevant personnel.

The TCP is not the sole individual responsible for ensuring compliance with the Permit or implementing the EMS as this requires input from the company and all relevant personnel involved with the permitted activities.

4.2 Relevant Training

All relevant staff working on the permitted activities will be trained on the requirement of the Permit and the EMS. To assist with management of training records and needs, Glass Tech will regularly undertake analysis to identify skill gaps and record all training on the relevant forms in Appendix 2. Glass Tech will ensure that all relevant staff are:

- trained in aspects that can lead to pollution and the measures to be taken to prevent that pollution
- trained to deal with accidents
- aware of responsibilities under the Permit
- aware of the importance of equipment and plant maintenance
- competent to operate machinery and provided with safe operating instructions for that equipment or activity
- appropriately inducted, including contractors.

Records of training will be maintained by Glass Tech.

The management of Glass Tech is fully committed to protecting the environment and demonstrating continual environmental improvement. Through effective training, communication and delegation, Glass Tech will encourage all employees to be committed to the full implementation of the EMS.

5 WASTE MANAGEMENT

Ensuring that the waste accepted at the site is in accordance with the Permit is fundamental to the operation of the site. As part of the full EMS Glass Tech will document each step to be taken and these actions will be embedded into the staff training programme. The principles of the methodology are outlined below with associated procedures and forms provided in Appendix 1 and Appendix 2.

5.1 Waste Acceptance

1. A minimum of 24 hours notification (or less by arrangement) of waste being delivered to site shall be implemented, particularly if the waste is arising from a site where Glass Tech does not have control over the waste or its transportation. Prior to any waste leaving for delivery to the site, Glass Tech will ensure that the Waste Producer is aware of their Duty of Care requirements, the specifications for waste to be accepted and the limitations of the site Permit.
2. Prior to the waste being brought to the site the waste must be classified by the Waste Producer. The producer must provide information with respect to the waste's relevant EWC code, appearance and any process applied to create the waste. Where Glass Tech are collecting the waste the driver will visually inspect the waste as far as reasonably possible. If the waste is not acceptable the driver will not collect the waste.
3. On delivery and, if necessary, the waste carrier shall present a Duty of Care certificate/ Waste Transfer Note (WTN) at the weighbridge. This is to be compared against the initial enquiry and the Waste Producers waste classification. If they are unable to produce valid certification, the waste shall be rejected and the incident recorded in the site diary.
4. If the waste is NOT as described or is not accepted within the terms of the Permit it shall be deemed to be NON-COMPLIANT. All non-compliant wastes shall be rejected and the incident recorded in the NON-COMPLIANT WASTE FORMS.
5. If valid certificates are produced and have been reviewed, an additional visual inspection of the waste will be undertaken where possible. This is to ensure the waste is in compliance with the WTN, the Permit and the driver's description.
6. All NEW waste carrier drivers are to undergo site induction and also sign the safe working procedure form provided at the site office.
7. If the waste IS acceptable, the following information shall be recorded on the RECORD OF WASTE DELIVERIES RECORD FORM held at the site office:
 - a) Estimate of the volume/weight of waste in the vehicle
 - b) Category/EWC Code of the waste
 - c) Time of delivery
 - d) Vehicle Registration
 - e) Site address of waste
 - f) Name of waste carrier

5.2 Waste Inspection and Weighing

1. On acceptance of the waste at the weighbridge the waste shall be weighed at the weighbridge by the operator (gross weight) and the value recorded. The empty waste vehicle shall be re-weighed on exit (net weight) and the value recorded. The weight of the waste will be GROSS minus NET weights. The weight of the waste delivered is to be recorded on the REGISTER OF WASTE DELIVERIES FORM.

5.3 Waste Input Recording

1. Collate and submit waste data to the NRW in accordance with Permit requirements.
2. All records of received and removed waste are to be stored for a minimum period of 2 years.
3. All records of non-compliant wastes rejected from site are to be stored for a minimum period of 2 years.
4. All records of product from site are to be stored for a minimum period of 2 years.

5.4 Waste Delivery to Working Area

1. Following correct classification and acceptance of the waste, the driver shall be given directions including, if necessary, a plan of the route to the relevant site area.
2. If any new drivers are unsure of the correct location, contact (radio/telephone) between the Operation manager and the operating staff will take place to ensure the waste lorry arrives at its correct destination.
3. The operational staff will guide the waste lorry driver to the correct area for controlled discharge.
4. The waste receiving areas will be clearly marked with a sign to ensure no cross-contamination of waste streams.

5.5 Identification and Management of Non-compliant Wastes

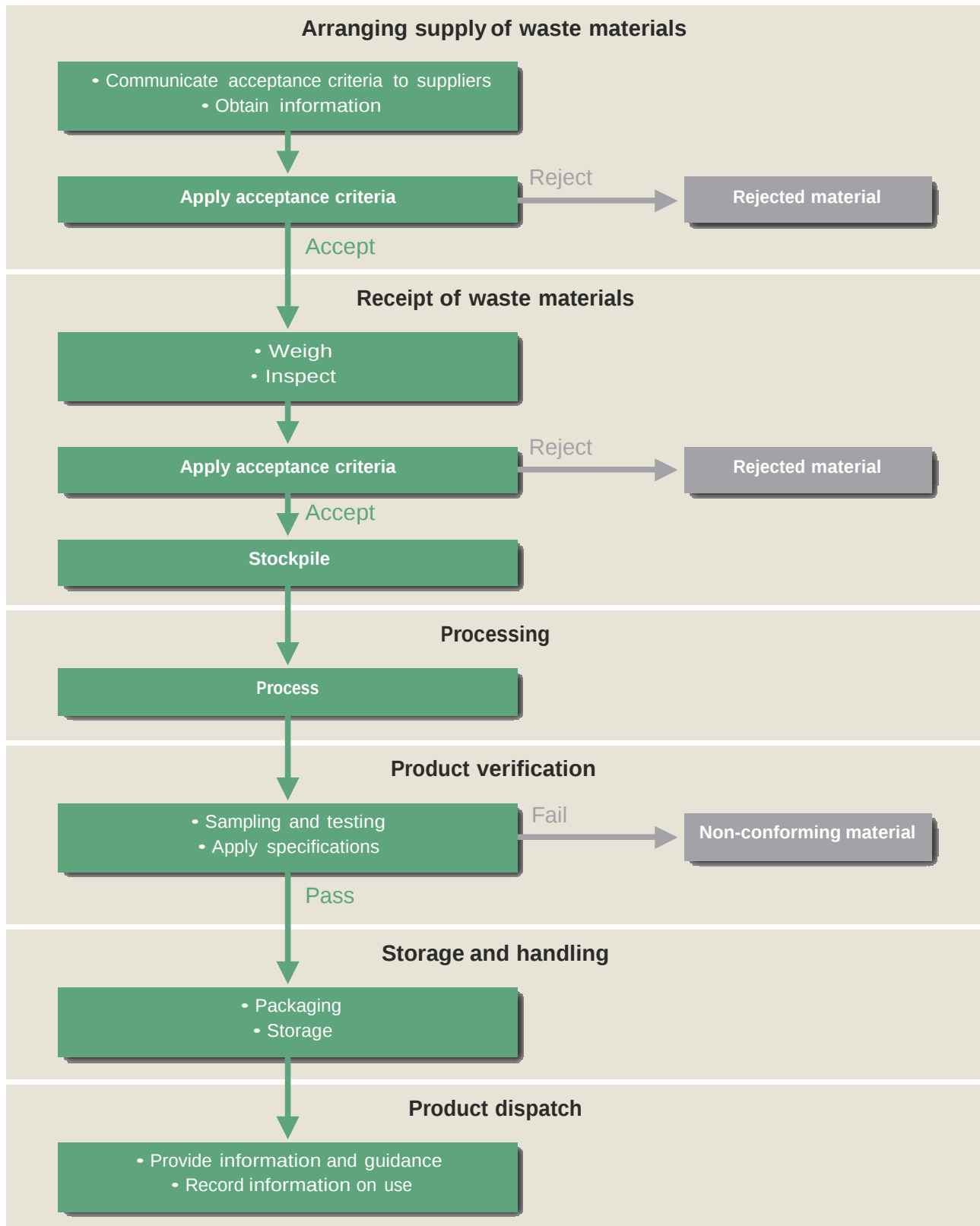
1. When the waste is tipped into the dedicated storage area, the stockpile will be visually checked. Any non-compliant loads will be rejected and either sent back to the waste producer where they originated or landfilled at the client's cost. The occurrence of such wastes will be recorded on the NON-COMPLIANT WASTE FORM. A comment may also be made in the Site Diary. The information to be recorded will include:
 - a) Date and Time
 - b) Description of Waste
 - c) Details of Non-compliant waste
 - d) Details of action taken
 - e) Name and address of Waste producer
 - f) Vehicle Type
 - g) Vehicle Registration
 - h) Waste Carrier Details
 - i) Waste Transfer Note Number
 - j) Details of final waste destination

6 FACTORY PRODUCTION CONTROL

In addition to the procedures to be set out in the EMS for waste acceptance, Factory Production Control (FPC) systems will also be established for the production of aggregates from inert waste glass. The FPC will extend beyond the requirements of the EMS to demonstrate that the waste has ceased to be waste and that a product has been manufactured or waste recovered. However, there will be significant overlap with the EMS to ensure risks to the environment are managed and documented.

The overall process of Factory Production Control is summarised in the flow chart below with further detail provided in the following sections and relevant forms in Appendix 4. The FPCs will be fully documented before the processes are operational.

Generic Factory Production Control process for production of aggregates



6.1 Method Statement of Production

1. All operational staff are to be fully trained in the waste recycling operations including:
 - a) Location of different waste
 - b) Types of waste
 - c) Location of finished products
 - d) Types of finished Products
 - e) Manufacture of different finished products

The areas of waste and finished products will be clearly marked with signs.

2. Operational staff will be informed by the plant foreman or the managing director of the product requirement and the plant equipment to use to produce the products.
3. The recycling process will involve the operation of dedicated equipment. Records of maintenance of these pieces of equipment will be kept in accordance with MAINTENANCE RECORDS.
4. Relevant operational staff will be trained in the operation of the plant and a record of this training kept at the site office in accordance with TRAINING RECORDS.

6.2 Product Inspection and Testing

1. The manufacture of finished product will be recorded by operational staff on the DAILY PROCESS CONTROL RECORD. During the process, the operational staff will visually inspect the material produced to see if it complies with the required specification. Comments about process difficulties should be recorded on this form.
2. Where necessary, each of the products will be routinely sampled and tested to assess the quality of the product. The assessment criteria will be based on customer required and published standards.
3. A schedule of testing shall be forwarded to the laboratory.
4. The testing records received from the laboratory will state whether the material conforms with the requirement of the end product as manufactured, or specified by the client. The testing records shall be examined by the Operation manager.
5. Non-conforming products will be identified. The cause will be investigated and recorded on NON CONFORMING PRODUCTS FORM in accordance with the relevant procedures.

6.3 Product Handling and Storage

1. The manufactured finished product will either be:
 - a) Moved to a stockpile/silo away from the processing area for later sale after process manufacturing
 - b) Left in-situ immediately after processing ready for sale
2. Product stockpiles will be kept separate and away from waste stockpiles to avoid cross contamination.
3. The finished products will be clearly marked with signs.
4. The finished products will be handled/moved/loaded according to relevant Standards/ Specifications and client requirements.

-
5. The operational staff will be responsible for the cleanliness of the machinery used in the handling of the finished product in order to avoid cross contamination. If necessary, the machinery will be cleaned.
 6. If cross contamination occurs, the product stockpile will be cleaned of any contaminated material. The contaminated material removed will be placed into the appropriate waste stockpile to await re-processing or disposal.

6.4 Product Non-Conformance

1. On receiving a complaint or non-conforming laboratory test result, an investigation to determine the root cause will be undertaken. The DAILY PROCESS CONTROL RECORD FORMS will be evaluated to see if any indication is provided. The issue would be discussed with the relevant operating/processing staff to try and establish the cause of the problem.
2. The non-conforming material shall be either:
 - a) Reprocessed
 - b) Used for another end use which it is suitable for
 - c) Rejected and marked (on a sign) as being non-conforming
3. If the material has already been sent to a client, then an agreement will be made as to the course of action taken.
4. If the causes of the non-conformance can be established then a series of corrective actions will be implemented and documented. These could include:
 - a) Examination of the testing procedure, which may result in adjustments to it
 - b) Analyse the processes, operations, quality records sampling reports and customer complaints to see if any causes can be established
 - c) Initiate preventive actions to deal with the problems to a level corresponding to the risks encountered
 - d) Apply additional controls to ensure effective corrective actions are taken
 - e) Implement and record changes to the management system procedures involved in any corrective action
5. The PRODUCT NON-CONFORMANCE FORM is to be filled in during and after the non-conformance event has occurred.

7 PLANNED PREVENTATIVE MEASURES

7.1 Maintenance

Glass Tech recognises that many pollution incidents are a consequence of a maintenance failure. To avoid such incidents, a Planned Preventative Maintenance programme will be in place. The Plan will include routine checks of plant, machinery, infrastructure and drainage systems that could influence the environment. The Plan will be directly linked to the Environmental Risk Assessment.

Glass Tech will investigate malfunctions, breakdown or failure of plant and equipment, techniques and near misses, releases to the environment, or impacts on the local amenity.

The Plan will be documented using forms similar to those provided in Appendix 2.

Basic daily / monthly vehicular checks will be undertaken at the Glass Tech facility but MOTs and servicing will be undertaken off-site, at least initially.

7.2 Pollution Prevention

Glass Tech will ensure that all aspects of site development are undertaken in accordance with the current Pollution Prevention Guidance issued by NRW/EA. Input from the Fire Rescue Service (FRS) will ensure that the layout of the site and particularly the UPVC storage and processing areas, minimises the risk of fire. The site will not operate until a Fire Safety Certificate is secured and FRS and NRW are satisfied with the site layout, stock heights and stack separation distances.

8 INCIDENTS & EMERGENCIES

Glass Tech recognises that accidents can cause pollution. For this reason a detailed incident management plan will be developed and will be reviewed as site works progress.

8.1 Emergency Site Plans and Contact Details

As part of the incident management plan a clear diagram of the site layout and access details, along with a schematic representation of the site drainage arrangements, will be produced. Features that will be included on the plan will be:

- access routes and meeting points for emergency services.
- the location of process areas.
- areas or facilities used to store raw materials, products and wastes (include details of tank sizes and products stored).
- bunded areas, with details of products stored and estimated retention capacity.
- location of hydrants, 'fireboxes' and pollution prevention equipment and materials.
- controlled water receptors.
- site drainage including direction of flow. Surface drains will be marked as blue and the foul sewers as red.
- inspection points to detect pollution.

Alongside the detailed site plans, the response plan will detail the key contact details who may need to be informed in response to an emergency, as summarised in Table 8-1.

Table 8-1 Key Details to be Included in Emergency Procedures

SITE DETAILS			
Location:			
Postcode:			
Site Access Grid Reference:			
SITE CONTACTS	Name	Office Hours (specify)	Out of hours
Owner:			
General Manager:			
Site Manager:			
Site Supervisor:			
Security Contact:			
Landowner / Agent:			
EMERGENCY SERVICES		Office Hours	Out of hours
Emergency		999	999
Medical:			
Police:		999 (emergency) 101 (non-emergency)	999 (emergency) 101 (non-emergency)
Fire:		999	999
REGULATORS		Office Hours	Out of hours
Health and Safety Executive (HSE)		0845 300 99 23 (major injuries only) Report other injuries on www.hse.gov.uk/riddor	0151 922 9235 or 0151 922 1221
Local Authority:		01639 686868	01639 686868
Natural Resources Wales (Local)		0300 065 3000 (Mon-Fri, 8am - 6pm) 24 hr incident helpline: 0800 807060 Floodline (24 hour service): 0345 988 1188	24 hr incident helpline: 0800 807060 Floodline (24 hour service): 0345 988 1188
UTILITY/KEY SERVICES	Name	Office Hours	Out of hours
Water undertaker:	Welsh Water		
Sewerage undertaker:	Welsh Water		
Gas supplier:			
Electricity supplier:			
Oil supplier:			
Fuel supplier:			
Chemical supplier:			
Oil spill contractor:			
Maintenance contractor:			
Electrician:			
Plumber:			
Locksmith:			
Joiner:			
OTHER KEY CONTACTS	Name	Office Hours	Out of hours
Head Office:			
Adjacent landowners:			
Neighbours:			
Specialist advisors:			

8.2 Planning

Glass Tech will assess the potential for negative environmental impacts to arise out of abnormal operating and emergency conditions using a systematic process underpinned by risk assessment. From this assessment, Glass Tech will identify and document significant aspects to enable environmental action plans to be developed. This assessment will be reviewed at least annually and will be based on the forms and procedures included in Appendix 1 and 2.

Reviews will also be undertaken following any accidents and emergencies and in response to any employee reporting a hazard.

Glass Tech recognises that causes of environmental incidents are varied but could include:

- delivery and use of materials.
- overfilling containment vessels.
- plant or equipment failure.
- containment failure.
- fires, explosions or failure to contain firefighting water.
- wrong connections of sewers and pipes.
- incompatible materials coming in contact.
- uncontrolled reactions.
- vandalism.
- flooding.

Any of these incidents could affect:

- drainage systems, surface waters, aquatic ecosystems, groundwater and soil.
- air quality by producing toxic fumes and airborne pollutants which may damage human health, wild and domestic animals and ecosystems.
- thermal radiation which can harm people and the environment.

An overview of the aspects to be included and adopted in the plan are provided in Table 8-2 and Table 8-3.

Table 8-2 Emergencies to be Evaluated as part of full EMS

Possible Accident / Incident	What Would The Harm Be?	How will Glass Tech Reduce Likelihood of Accident Occurring?	What To Do If It Happens?
Spillage from Vehicle e.g. diesel delivery	Contamination of land/water/air, injury to individuals.	Ensure all materials are secured before transport; containers are suitable to hold the material and are not damaged. Also follow risk assessment procedures to minimise risk of incident occurring.	Procedure to be listed in emergency plan
Spillage from liquid storage on site e.g. diesel and oil	Contamination of land/water, injury to individuals.	Ensure all containers are suitable to hold the material and are not damaged. Also follow risk assessment procedures and pollution prevention guidance for the holding of liquids to minimise risk of incident occurring.	Procedure to be listed in emergency plan
Fire on-site	Damage to equipment/vehicles/ plant/buildings, contamination to land/water/air, injury to individuals and inconvenience to community.	Maintain good housekeeping, follow fire safety precautions on-site, particularly stack heights and stack separation distances.	Procedure to be listed in emergency plan
Vehicle Fire	Damage to equipment/vehicle/plant/ buildings, contamination to land/ water/air, injury to individuals and inconvenience to community.	Ensure preventative maintenance programme is implemented including daily checks by drivers.	Procedure to be listed in emergency plan
Vehicle Breakdown	Damage to vehicle, injury to individuals.	Ensure preventative maintenance programme is implemented including daily checks by drivers.	Procedure to be listed in emergency plan
Vehicle Accident	Damage to vehicle, injury to individuals.	Ensure preventative maintenance programme is implemented including daily checks by drivers. Ensure staff are trained in use of vehicles and plant.	Procedure to be listed in emergency plan
Injury (Minor / Major)	Injury to individuals, damage to equipment.	Ensure all employees follow the procedures outlined in risk assessments when carrying out specific tasks.	Procedure to be listed in emergency plan
Plant & Property Damage	Injury to individuals, damage to equipment.	Ensure all employees follow correct procedure when operating equipment.	Procedure to be listed in emergency plan
Flooding	Injury to individuals, damage to infrastructure and off-site mobilisation of waste and potential contaminants.	Layout of site to accommodate predicted flood extent. Ensure emergency plan is in place and staff and visitors are aware of emergency responses and access / egress routes.	Procedure to be listed in emergency plan

Table 8-3 Range of Emergency Response Procedures to be Adopted

Foreseeable Emergency Situation	Likely Scenarios	Potential Actions to be Adopted
Spillage	From Vehicles	In the event of a Spillage or leak that may occur from a vehicle during carriage on/off site or when stationary, the members of the vehicle crew shall take the following actions where safe and practicable to do so: - Apply the braking system, stop the engine and isolate the battery by activating the master switch where available. - Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment. - Inform the appropriate emergency services, giving as much information about the incident and substances involved as possible. - Put on warning vest and place the self-standing warning signs as appropriate. - Keep transport documents readily available for responders on arrival. - Where appropriate and safe to do so, use on-board equipment to prevent leakages into aquatic environment or the sewage system and to contain spillages. - Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely. - Move away from the vicinity of the spillage, advise other persons to move away and follow the advice of the emergency services.
Spillage	From small amount of liquids stored on site e.g. diesel	In the event of a spillage the trained operatives shall take the following actions where safe and practicable to do so: - Immediately alert area occupants and supervisor, evacuate the area if necessary. - If there is a fire or medical attention needed, contact emergency services on 999. - Attend to any people who may be contaminated, contaminated clothing must be removed immediately and the skin flushed with copious amounts of water until emergency assistance arrives. - If a volatile, flammable material is spilled, immediately warn everyone, control sources of ignition and ventilate the area. - Personal Protective Equipment to be used as appropriate to the Hazards. Refer to the Material Safety Data Sheet or other references to information. - Protect floor drains and other means for environmental release. Spill socks and absorbents may be placed around drains as needed. - Loose spill control materials should be distributed over the entire spill area, working from the outside, circling to the inside. This reduces the chances of splash or spread of the spillage. - When spill materials have been absorbed use brush and scoop to place materials in appropriate container. Polyethylene bags may be used for small spills. 5 gallon drums or 20 gallon drums with polyethylene liners may be appropriate for larger quantities. - Complete a Hazardous Waste sticker, identifying the material and affix onto the container. Spill control materials will probably need to be disposed of as hazardous waste. - Decontaminate the surface where the spill occurred using suitable detergents and water, when appropriate.
Fire	At Site	When encountering a fire, firstly notify the Emergency Services by activating the fire alarm and/or calling 999 to provide details of the situation: - Extinguish the fire if you have been trained and it is safe to do so (Fire extinguisher locations will be identified in staff induction). - Make sure that you have a safe exit from the fire area. - If you are unable to extinguish the fire, leave the area immediately and activate the fire alarm. When evacuating the building or work area: - Stay calm, do not rush, and do not panic. - If safe and time permits, close doors and windows, but do not lock them. - As you exit, warn others to evacuate. - Proceed to the designated Emergency Assembly Point and report to your Evacuation Roll Caller.
Injury	Minor or Major Injury	In the event of a minor injury or major injury occurring on site the emergency procedure is shown below: - Initial response is to assess the Injury to the individual and provide medical aid as appropriate whether the trained site Health and Safety officer can provide medical aid. - Prevent secondary accidents occurring by neutralising equipment/machinery that caused accident. - Emergency services contacted if individual requires hospital attention. - The incident will then need to be investigated following the relevant Accident/Incident procedures and reported as a Minor or Major injury to prevent the injury occurring in future.

8.3 Establishment of Contingency Actions

Based on the assessment of abnormal and emergency conditions Glass Tech will develop relevant emergency response procedures. Where necessary, additional training will be organised and documented. The procedures will also detail the internal/external communication procedure during and after the occurrence of abnormal and emergency conditions.

8.4 Testing of Emergency Preparedness

Glass Tech will periodically test all procedures where practicable, based on the drills included in Appendix 1. The results of the tests will be documented.

9 COMMUNICATION AND COMPLAINTS

9.1 Internal Communication

Glass Tech is committed to ensuring that the requirements of the Permit and the EMS will be fully implemented. One of the key ways of achieving this is through clear communication with all employees to ensure that the requirements are understood, available and fully integrated to routine site work. This will be achieved by various means including signage, meetings, environmental awareness training sessions, tool-box talks, inductions, signage and posters. Particular attention will be paid to ensure that sub-contractors are aware of the relevant requirements.

9.2 External communications

Dialogue with external parties may include submittal of information to external parties, receipt of requests for information, receipt of complaints and dialogue with NRW. In the majority of cases, the Technically Competent Person (TCP) or Site Manager will be the initial point of contact. All communication will be documented.

Specific measures for dealing with complaints will be based on those detailed in Appendix 2. Glass Tech takes complaints seriously and will take the necessary actions to investigate the complaint. If a complaint is valid Glass Tech will:

- identify the cause.
- minimise the impact of the activity causing the problem.
- investigate the root cause of the problem.
- take steps to ensure the problem is not repeated.
- record the complaint and what actions were taken to investigate and resolve it.
- amend the EMS if necessary.

10 MONITORING AND MEASUREMENT

10.1 Proof of Control

Glass Tech recognises that a key aspect of any EMS is to document the operation of the EMS so that its effectiveness can be scrutinised and any shortcomings identified. This will be achieved through thorough relevant training and routine assessment of working instructions and records for both employees, contractors and suppliers.

10.2 Monitor and Measure

Glass Tech will document implementation of the proposed waste operation and pollution control measures using forms similar to those provided in Appendix 2. Records shall include waste acceptance, waste delivery, waste placement, preventative maintenance programmes, product production and environmental monitoring.

11 INTERNAL AND EXTERNAL AUDITS

11.1 Internal EMS Audits

The environmental management representative will establish a rolling audit programme that ensures each aspect of the EMS is audited at least annually. More frequent audits will be undertaken on the more sensitive procedures and aspects. The principle aim of the audit will be to determine whether or not the EMS conforms to planned expectations and is being effectively implemented and maintained. The environmental management representative will provide feedback regarding the audit process to management. The audit findings will be recorded.

11.2 External Audits of EMS

As the EMS will be initially developed in-house, there is no formal mechanism for external audit. This does not, however, mean that Glass Tech will not employ an external contractor to audit the system against the full EMS manual. Ultimately, Glass Tech plan on integrating the proposed activities into existing ISO systems, which will involve external audit.

12 NON-CONFORMANCE, CORRECTIVE & PREVENTIVE ACTION

12.1 Continual Improvement

Through monitoring of performance, Glass Tech will seek to identify non-conformance issues requiring action to ensure continued environmental performance and full implementation of the EMS. Glass Tech will seek to identify non-conformance issues through a variety of means including outcomes of audits, incident reports, reviews of legislation requirements and complaints.

12.2 Investigation of Failings

Following identification of non-conformance issues, the environmental management representative will lead an investigation into the root causes and identify ways in which the issues can be avoided in the future. The review will also aim to identify any ways in which the EMS may be improved. This may require specialist input from internal and external parties. This process will lead to corrective and preventative action plans being developed and tracked.

13 RECORDS, REPORTING AND NOTIFICATIONS

The Permit will require records to demonstrate that the activities are in compliance with the EMS.

13.1 Controlled documents

This summary EMS outlines some of the relevant procedures and forms that will be required to document the proposed waste activity. All documents will be controlled and issued by the Technically Competent Person (TCP). One of the responsibilities of the environmental management representative is the maintenance of this documentation.

13.2 Location of documents

All relevant documents will be available on site and routinely backed up.

13.3 Review, Update and New Documentation

Glass Tech will periodically review the EMS. Only authorised personnel are able to make amendments to documentation in consultation with the TCP Environmental management. All employees will, however, be encouraged to provide feedback regarding the documentation to ensure it remains fit for purpose.

13.4 Document Issue and Removal

Glass Tech will ensure that all current versions of the documentation are reviewed, updated and issued to all the relevant parties. Any documentation not required will be clearly identified through the use of an obsolete records system.

13.5 Document and Record Retention

Glass Tech will ensure that all documentation will:

- be legible.
- be made as soon as reasonably practicable.
- if amended, be amended in such a way that the original and any subsequent amendments remain legible or are capable of retrieval.
- be retained for at least 6 years unless they relate to off-site environment effects or matters relating to the condition of the land, groundwater and surface water, in which case they will need to be retained until the Permit is surrendered.

13.6 Reporting to NRW

Glass Tech will report relevant waste records to NRW at the required intervals set out in the Permit.

13.7 Notifying NRW

Glass Tech shall notify NRW without delay the detection of:

- any malfunction, breakdown or failure of equipment or techniques, accident or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution.
- the breach of a limit specified in the Permit.
- any significant adverse environmental effects.

Written confirmation of actual or potential pollution incidents and breaches of emission limits shall be submitted to NRW within 24 hours.

Glass Tech will notify NRW within 14 days of the occurrence of the following matters:

- any change in the operator's trading name, registered name or registered office address.
- any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

14 PERMIT SURRENDER

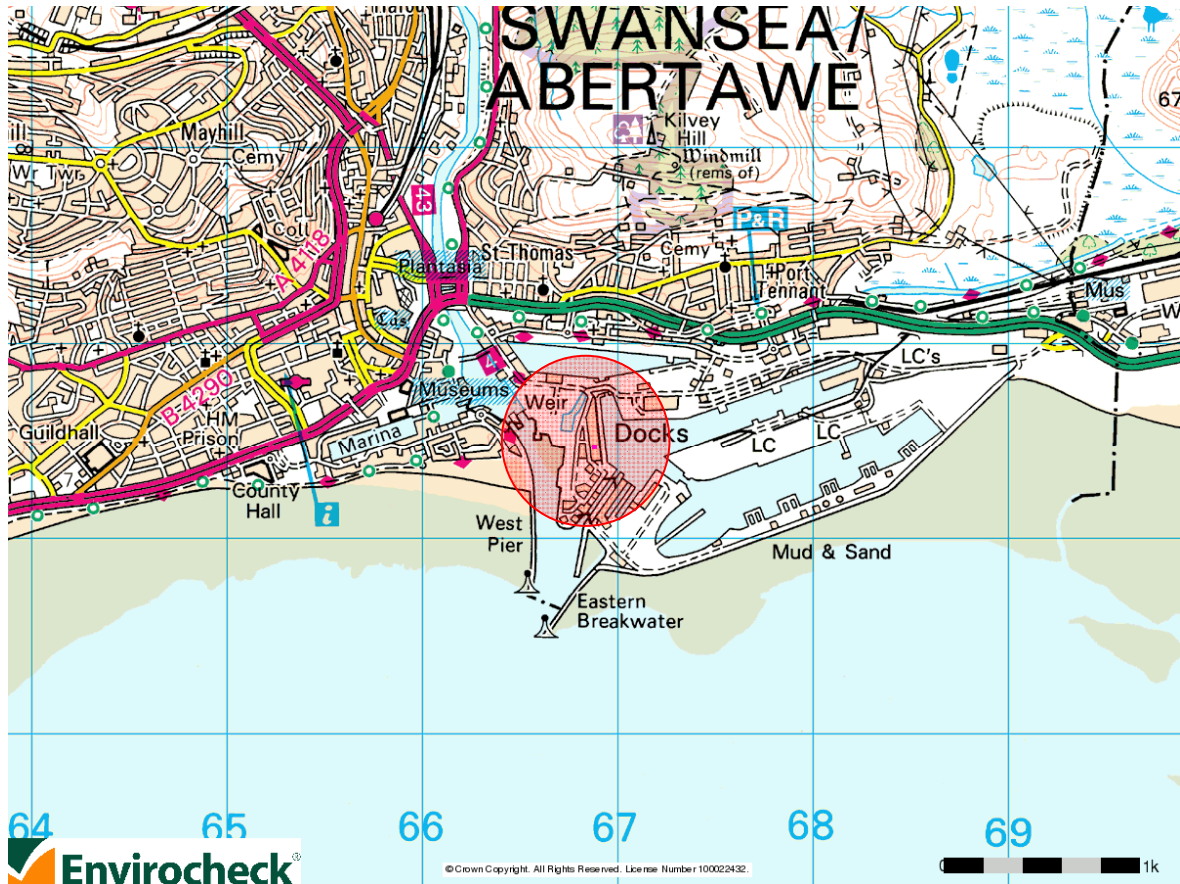
Should Glass Tech wish to surrender the Permit at some point, NRW will need to be convinced that necessary measures to avoid any pollution risk resulting from the waste activities have been taken.

The legal test for surrender is – “that the necessary measures have been taken:–

- (a) to avoid a pollution risk resulting from the operation of the regulated facility; and
- (b) to return the site of the regulated facility to a satisfactory state, having regard to the state of the site before the facility was put into operation.”

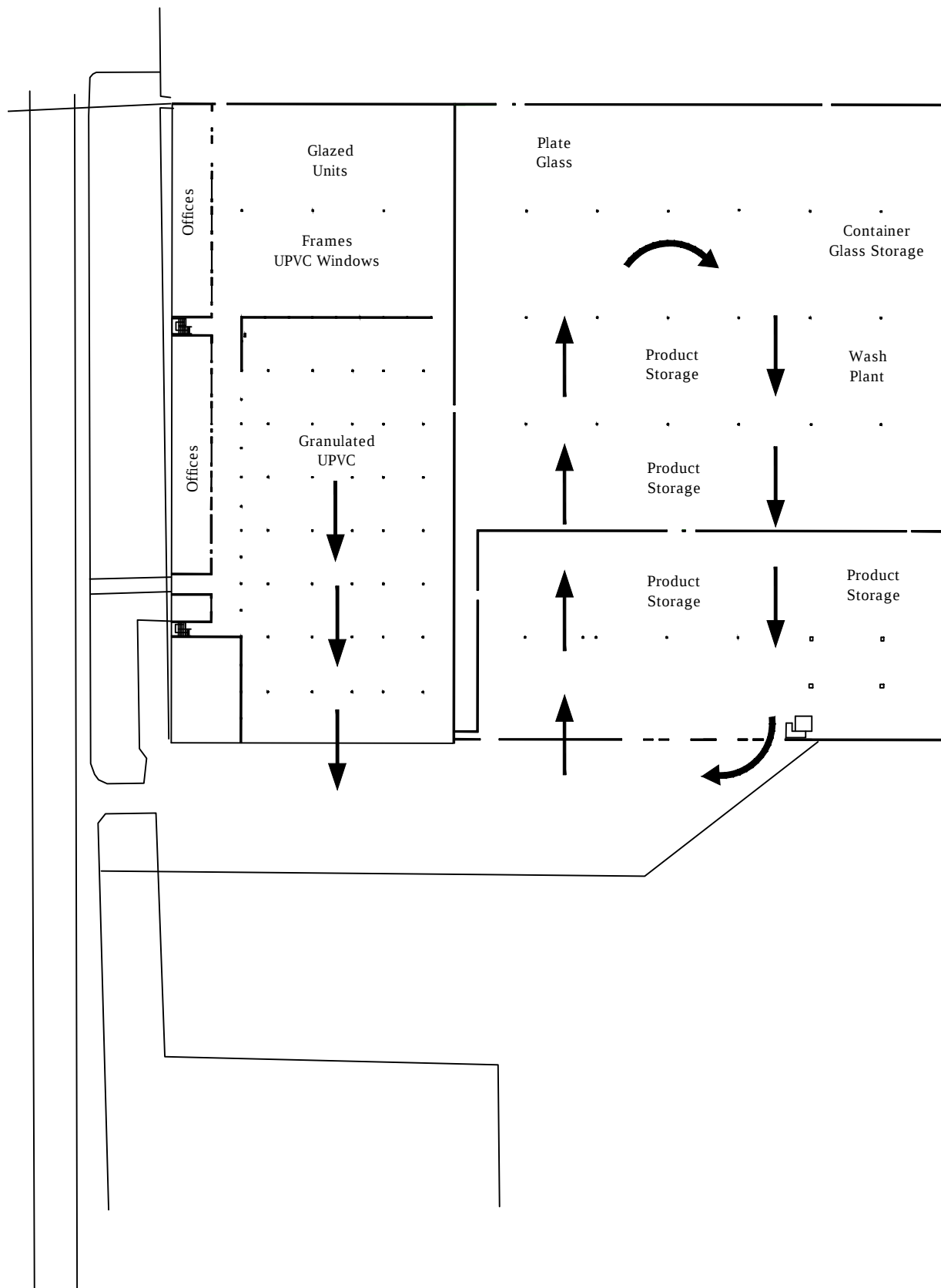
Given the site history and location, the Site Condition Report considers that the ground beneath the site is not likely to be significantly impacted by historical site activity. With the available desk based information, the presence of made ground associated with the construction of the unit cannot however be discounted and during the operation of the previous automotive facility, leaks and spills may have occurred. Provided the site is operated in accordance with the Permit and records are maintained that show waste acceptance and pollution control measures have been implemented, the land quality should not be altered. This may mean that a ‘Basic Surrender’ will be feasible. During operations, Glass Tech will therefore need to ensure that the relevant records are maintained and the Site Condition Report updated. This will ensure that several lines of evidence demonstrating the legal test has been satisfied are gathered during operations.

Figure 1 Site Location Plan



Reproduced from the Ordnance Survey Land Ranger Map
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Figure 2 Proposed Site Layout and Access



REPORT 4

BESPOKE ENVIRONMENTAL PERMIT APPLICATION

SUMMARY ENVIRONMENTAL MANAGEMENT SYSTEM

**Kings Dock
Swansea**

**Appendix 1
Procedures to be
Incorporated into
Full EMS**

EVALUATION OF ENVIRONMENTAL ASPECTS

1. Purpose

The purpose of this procedure is to ensure that all environmental aspects (operations, activities and equipment) carried out and used at the site are identified and that the significance of their environmental impacts are assessed to permit improvement objectives and the implementation of necessary control measures. This procedure should be used to address normal and abnormal operating conditions and also emergencies. This procedure applies to all activities including those of contractors.

2. Scope

This procedure covers all environmental aspects and impacts undertaken at the Kenfig Works which Glass Tech controls or has reasonable influence over.

3. Procedure

3.1 Aspects & Impacts Identification

The environmental management representative is responsible for carrying out an annual review of the overall environmental aspects and impacts of all operations and activities at the site.

Aspects are defined as those operations or activities over which Glass Tech has either control or significant influence and which have the capacity to affect the environment.

Impacts are defined as the effects upon the environment, positive or negative, which the environmental aspects of the operations and activities produce.

Separate additional reviews will be required to assess the aspects related to any new processes, changes in operational practice, new legislation and other foreseeable factors.

The results of all reviews shall be recorded on the Register of Environmental Aspects.

The annual review shall be timed to produce a list of prioritised environmental impacts for consideration during the setting of environmental objectives and targets for the following year. The review shall identify environmental aspects by an assessment of the operations, activities and services, together with consideration of the actual and potential effects of:

- Air emissions to atmosphere
- Water usage and discharges to surface water groundwater and sewers
- Land contamination caused by spillages, etc.
- The production, re-use, recycling and disposal of waste
- Receipt of waste for processing and recycling
- The storage and management of materials
- Activities upon local ecology of operations, sites and premises
- The visual impact of sites and buildings
- Environmental noise
- Energy use and management
- Use of transport and vehicles
- Materials used
- Organisation & site information
- Legal issues and other requirements

Existing environmental management
Raw materials
Packaging
Office activities
Landscaping and infrastructure
Other relevant issues such as odours, particulates, lighting & pests

3.2 Assessment of Significance

Each aspect identified shall be assigned a significance rating to indicate the relative importance of its related environmental impacts. The significance rating shall be used to define those impacts which shall be controlled through environmental objectives and targets, or by the implementation of operational control procedures.

Impacts shall be assessed by the environmental management representative using the following method:

All aspects which are legitimate concerns of major stakeholders and the company shall be regarded as significant, if necessary controls have not been implemented.

All aspects which are subject to environmental legislation shall be regarded as significant. All aspects where insufficient information is available to make a reasoned judgement shall be regarded as significant until further information is available.

Where none of the above criteria apply, the aspects and related impacts shall be evaluated by the method specified in the following sections.

3.3 Normal conditions

Under normal operating conditions an impact is evaluated by taking into consideration the quantity of the aspect being evaluated and the environmental consequence of the impact.

Impact = Quantity of Aspect x Environmental Consequence

The Quantity of Aspect is given a rating with a value of between 1 and 4 based on the criteria summarised in Table 1. Judgement will need to be made and documented regarding the quantity of materials used and/or the amount of substance emitted to the environment.

Table 1 Quantity of Aspect

5	MAJOR source of emissions or use of resource
4	HIGH source of emissions or use of resource
3	MODERATE source of emissions or use of resource
2	MINIMAL source of emissions or use of resource

The environmental consequence of the impact is also given a rating based on the criteria summarised in Table 2. In gauging the significance of the consequence the assessor will need to take into consideration the sensitivity of the environment and should make reference to the Site Condition Report.

Table 2 Consequence Rating

4	MAJOR effect on the environment. Equivalent to an EA category 1 Compliance Classification Scheme rating.
3	SIGNIFICANT effect on the environment. Equivalent to an EA category 2 Compliance Classification Scheme rating.
2	MINOR effect on the environment. Equivalent to an EA category 3 Compliance Classification Scheme rating.
1	MINIMAL effect on the environment. Equivalent to an EA category 4 Compliance Classification Scheme rating.

By multiplying the quantity and consequence scores the impact significance is calculated. If the impact rating is 6 or above then the aspect is considered significant under normal operating conditions

Significant Impact (6-16)

Non-significant Impact (1-5)

This evaluation will be recorded and justified.

ALL SIGNIFICANT IMPACTS WILL BE LISTED AND TAKEN FORWARD FOR MANAGEMENT AND MITIGATION

3.4 Abnormal and emergency conditions

Conventional risk assessment is used to evaluate the significance of potential impacts during abnormal and emergency conditions. For each plausible impact identified, the likelihood of the impact and the magnitude of the consequence of the impact occurring will be evaluated. The overall magnitude of the impact is the product of the likelihood and the consequence associated with the event. Therefore, the overall magnitude can be summarised as follows:

Magnitude of Impact = Likelihood X Consequence

The consequence and likelihood of each impact takes into consideration five sets of criteria:

Consequence of Impact

Magnitude – the severity of the impact.

Scale – the geographical extent of influence of the impact.

Duration – the time period over which the impact will continue to be experienced.

Likelihood of Impact

Exposure – the frequency of the activity that may cause the impact.

Probability of occurrence – the probability that the impact will actually occur during the period of exposure.

For each of the criteria, a rating system has been developed. An explanation of the ratings associated with each of the above criteria is provided in Table 3 and Table 4.

To facilitate evaluation and ranking of the potential impacts each criteria has been assigned a numerical score between 1 and 5. Where there is insufficient data to categorise an impact against the criteria, the impact is assigned an appropriate default value and labelled 'unknown'. In these instances, a conservative approach is adopted and negative impacts are assigned a value of 5, reflecting the theoretical worst case scenario. Positive impacts that cannot be confidently rated against the criteria are assigned a value of 3, reflecting a conservative positive impact.

To obtain the overall consequence rating of the potential impact, the numerical values for each criteria (magnitude, scale and duration) are added together. Similarly, to obtain the overall likelihood of an impact, the exposure and probability scores are added together. The range of possible values for consequence is therefore 3-15, and the range for likelihood is 2-10.

Table 3 Criteria for evaluation of the consequence of possible impacts

Criteria	Description	Possible Results		
		Term	Description	Score
Magnitude of Impact	An indication of the severity of the impact and either positive or negative	Very High	Extreme negative effect - e.g. environmental functions or processes permanently cease, significant harm to human health	5
			Extreme positive effect –e.g. permanently off-sets consumption of natural resources, large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).	
		High	Severe negative effect – e.g. environmental functions or processes are altered to the extent that they temporarily cease, long-term or irreversible effect to human health.	4
			Severe positive effect - e.g. temporarily off-sets consumption of natural resources, benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).	
		Moderate	Moderate negative effect - the affected environment is altered, but functions continue, albeit in a modified way, medium-term or reversible effect to human health.	3
			Moderate positive effect – Consumption of natural resources continues, but a significantly lower quantity is required, moderate benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).	
		Low	Minimal negative effect - affects the environment in such a way that functions and processes are not affected, short-term or reversible effect to human health.	2
			Minimal positive effect - Consumption of natural resources continues, but a large amount is still required, minor benefit to or positive addition of one or more characteristics, features or elements	
Very low	Minimal or negligible effect (positive or negative), no measurable effect on humans.	1		
Unknown	Magnitude of impact unknown	5*		
Scale of Impact	An indication of the geographical extent of the impact, either negative or positive	National	Affects international resources	5
		Regional	Affects the resources of Wales and the UK	4
		District	Affects off-site resources within adjacent County Boroughs	3
		Local	Affects the immediate surroundings	2
		Site-specific	Localised	1
		Unknown	Extent of impact unknown	5*
Duration of Impact	An indication of the duration or time over which the impact will be experienced, either negative or positive	Permanent	Will remain permanently	5
		Long Term	Extends throughout the life of the Permit	4
		Medium Term	Occurs over a period of months	3
		Short Term	Occurs over a period of a few weeks	2
		Transient	Very short duration (few days)	1
		Unknown	Duration of impact unknown	5*
* Score of 3 assigned for positive impacts				

Table 4 Criteria for evaluation of the probability of plausible impacts

Criteria	Description	Term		Description	Score
Frequency of Impact	An indication of the frequency of the activity that may cause the impact, or the continuity of the exposure, either negative or positive		<i>Discrete Event</i>	<i>Prolonged Exposure from a Single Activity or Event</i>	
		Very high	Daily or continuous	Exposure in perpetuity	5
		High	Weekly/once per week	Continuous exposure for several months	4
		Moderate	Monthly/once per month	Continuous exposure for a few weeks	3
		Low	Bi-annually	Continuous exposure for a few days	2
		Very low	Annually or less frequently	Prolonged exposure but for a very short duration (< 1 day)	1
		Unknown	Frequency of activity unknown	Continuity of exposure unknown	5*
Probability of Occurrence	An assessment of the degree of certainty associated with a potential impact, either negative or positive	Certain	There is a pathway between receptor and hazard and an event is certain to occur		5
		Highly Likely	There is a pathway between receptor and hazard and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.		4
		Likely	There is a pathway between receptor and hazard and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.		3
		Possible	There is a pathway between receptor and hazard and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.		2
		Unlikely	There is a pathway between receptor and hazard but circumstances are such that it is improbable that an event would occur even in the very long-term.		1
		Unknown	Probability of occurrence unknown		5*

NOTE: * Score of 3 assigned for positive impacts

Based upon the overall aggregate scores each impact is assigned a qualitative term, ranging from 'very low' to 'very high' in accordance with Table 5.

Table 5 Overall consequence and likelihood ratings

Overall Consequence	Sum of Magnitude + Scale + Duration	3-4	5-7	8-11	12-14	15
		Very Low	Low	Moderate	High	Very High
Overall Probability	Sum of Exposure + Probability	2-3	4-5	6-7	8-9	10
		Very Low	Low	Moderate	High	Very High

Finally, the overall significance associated with the impact is determined by cross-referencing the overall consequence and likelihood ratings, as shown in Table 6. This determines the overall significance of the impact, which is assigned one of four qualitative terms, ranging from negligible to major. Each of the qualitative terms and implication of these levels of significance for the site are provided in Table 6 and Table 7.

Table 6 Matrix used to determine overall significance of potential impact

		OVERALL CONSEQUENCE OF IMPACT (Sum of Magnitude + Duration + Scale)				
		Very Low	Low	Moderate	High	Very High
OVERALL LIKELIHOOD OF IMPACT (Sum of Exposure and Probability)	Very Low	Negligible	Negligible	Negligible	Negligible	Slight
	Low	Negligible	Negligible	Negligible	Slight	Moderate
	Moderate	Negligible	Negligible	Slight	Moderate	Moderate
	High	Negligible	Slight	Moderate	Moderate	Major
	Very High	Slight	Moderate	Moderate	Major	Major

Table 7 Explanation and interpretation of significance ratings for impacts

Significance of Impact	Implications for Project	
	Positive Impacts	Negative Impacts
Major		There is a high probability that severe harm could arise to a designated environment receptor from an environmental aspect. Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process and require Glass Tech to consider re-designing operations to mitigate impact.
Moderate	Very substantial improvement to existing resources	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Glass Tech will set objectives and implement environmental action plans to control and mitigate the impact.
Slight	Appreciable improvement to, or will sustain, existing resources	Acceptable effect - the possibility of the impact occurring is by no means certain and the consequence of exposure is such that there would be no measureable harm. Unlikely to be critical in the decision-making process, but are important in enhancing the design of the site.
Negligible	Negligible effect - probable that impact could occur but the impact would be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.	

4. Management of Significant Impacts

All of the aspects identified as being significant will be documented and registered and subjected to further investigation and management under Environmental Action Plans.

Fire Drills

A drill is intended to ensure, by means of training and rehearsal, that in the event of fire:

The people who may be in danger act in a calm and orderly manner.

The appointed personnel undertake their key tasks

The means of escape are used in accordance with a pre-determined and practised plan.

If evacuation becomes necessary, staff should be aware of what to do.

Normal, advance warning should **not** be given of the fire drill.

Every opportunity should be taken to learn lessons from the drill and to reinforce staff training where gaps are identified.

It is good practise to appoint a small number of people to observe the drills and highlight areas of concern. It is important that all managers are aware of the procedures, as employees will look towards them in an emergency.

FIRE EVACUATION LOG SHEET

Date:	Reason for Evacuation:
Time of Alarm:	
Time Taken To Evacuate:	
Time Taken To Conduct Roll Call:	
Anyone unaccounted for:	
Were any escape routes blocked?	
If yes, with what?	
Were all windows and doors closed?	
If not, why?	
Were all machinery, processes, etc, ceased or switched off?	
If not, why?	
Fire alarm reset?	
Feedback from employees?	

Fire evacuation drills should be carried out at least once in every period of 12 months, unless otherwise specified.

Spill Drills

In the event of a Spillage on-site trained personnel shall take the following actions where safe and practicable to do so:

- Immediately alert area occupants and supervisor, evacuate the area if necessary;
- If there is a fire or medical attention needed, contact emergency services on 999
- If a volatile, flammable material is spilled, immediately warn everyone, control sources of ignition and ventilate the area.
- Protect floor drains and other means for environmental release. Spill socks and absorbents may be placed around drains as needed.
- Loose spill control materials should be distributed over the entire spill area, working from the outside, circling to the inside. This reduces the chances of splash or spread.
- When spill materials have been absorbed use brush and scoop to place materials in appropriate container.

Decontaminate the surface where the spill occurred using suitable detergents and water, when appropriate.

Spill Simulation Log Sheet

Date:	Reason:
Time of Spill:	
Time Taken To Locate Spill Material:	
Time Taken To contain spillage:	
Were any spill materials unavailable?	
If yes, why?	
Was the spill contained with no flowing liquid escaping from the controlled area?	
If not, why?	
Were all machinery, processes, etc, ceased or switched off?	
If not, why?	
Spill area cleared?	
Feedback from employees?	



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ENVIRONMENTAL TOOL BOX TALK

1. Good Housekeeping ..

Always ensure your work stations and surrounding area are free from potentially contaminating materials .

2. Working practices.

Ensure that procedures are adhered too stopping cross contamination with recycling materials on site and surrounding environment

3. Spillage Procedure.

In the event of a spillage that could affect the environment always report the incident to your supervisor and get the nearest spillage kit to prevent the spillage from harming any personnel and the environment .

4. Reporting Procedures

In the event of a incident that can affect the environment you must ensure you report this to your supervisor and fill out the proper documentation .

5. Control Measures

You must ensure that all control measures are adhered to i.e using water to suppress dust escaping into the air , using spillage kits were applicable and maintaining all machinery to prevent leaks and cross contamination .

Always use the proper PPE once entering the premises.

6. Maintenance of Machinery

Machinery must have maintenance regularly carried out so that all equipment is suitable for the purpose its intended for and that all equipment is safe to use .

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Company Reg: 07479819

Vat No: 104 798 012



GLASS TECH RECYCLING LTD HOUSEKEEPING ASSESSMENT FORM

Section / Area _____

Date 20/2/13 Assessor C. LITCHFIELD

OFFICES

	VERY POOR	POOR	FAIR	GOOD	VERY GOOD	SCORE
	1	2	3	4	5	
a. Offices to be clean and tidy				✓		
b. Toilets to be clean				✓		
c. Kitchen to be clean				✓		
d. All electrical equipment to be PAT tested					✓	
e. All fire extinguishers to be suitable and tested					✓	

MESS ROOMS

a. Floors, tables, chairs must be clean			✓			
b. Must be provided with waste bin			✓			
c. Windows should be clean			✓			
d. Kitchen to be clean				✓		

AMENITIES

a. Toilets to be clean			✓			
b. Washing facilities to be clean			✓			
c. Shower facilities to be clean			✓			
d. Drying facilities to be adequate			✓			
e. All electrical equipment to be PAT tested				✓		
f. All fire extinguishers to be suitable and tested				✓		

STOCKYARD

a. All scaffold racks must be tagged and checked weekly	✓					
b. All material to be checked on return from site before cleaning, painting and storing	✓					
c. Compound area to be clean				✓		
d. Compound fencing to be in good repair					✓	

Total c/f

Total b/f

VERY POOR	POOR	FAIR	GOOD	VERY GOOD	SCORE
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WORKSHOPS

a. Floors must be clean and free of unnecessary material				✓	
b. Machinery must be properly guarded				✓	
c. Benches must be clear of unnecessary objects				✓	
d. Hand tools must be properly stored					✓
e. Oils and fuels to be stored correctly					✓

TOTAL

Minimum required

COMMENTS

<u>ACTIONS REQUIRED</u>	Name	Date	Completed

Signed : C. M. H. Auditor

Date : 20/2/13.

Housekeeping Audit sheet

Glass Tech Recycling Ltd

Fire Risk Assessment for Unit 10 Tank Farm Road 2012

Completed by:

Karen John

Company/Department Representative: Karen John

Primary Occupancy Type:

This is a Glass Recycling Plant which is made up of separate buildings, Offices and Yard buildings

The building has been designed, and segregated into various areas to accommodate the following:

- Offices
- Welfare facilities

- Canteen kitchen area
- Mess rooms
- Storage buildings
- Changing rooms
- Drying rooms

The number of people who can occupy the premises at anyone time is established using the current guidelines issued by the Government and is based on the amount of people likely to be in any part of the

premises, the capacity of the escape routes that is adequate for people to escape safely and in sufficient

time to ensure their safety in case of fire.

The capacity of a route is determined by a number of factors including the width of the route, the time available for escape and the ability of the persons using them. The effective usable width of an escape route is the narrowest point, normally a door or other restriction such as narrowing of a corridor due to fixtures and fittings.

The time available for escape depends on several factors including the distance that has to be traveled to

reach a place of safety and the risk rating of the premises.

Note that these premises have been classed as 'Low Risk' based on the fact that recommendations given

in this report are carried out.

Established reasonable escape times are 2 minutes for higher risk premises, 2.5 minutes for normal risk

premises and 3 minutes for lower risk premises for calculation purposes these times are allowed for in the

travel distances suggested in Table below

A width of at least 750mm can accommodate Up to:

- 80 people in higher risk premises;
- 100 people in normal risk premises; and
- 120 people in lower risk premises.

A width of at least 1,050 mm can accommodate Up to:

- 160 people in higher risk premises;
- 200 people in normal risk premises; or
- 240 people in lower risk premises.

Escape routes	Suggested range of travel distance: areas with seating in rows	Suggested range of travel distance: other areas
Where more than one escape route is provided	20m in higher fire risk area 32m in normal fire risk area 45m in normal fire risk area	25m in higher fire risk area 45m in lower fire risk area 60m in lower fire risk area

Where only a single escape route is provided	10m in higher fire risk area 15m in normal fire risk area 18m in normal fire risk area	12m in higher fire risk area 18m in lower fire risk area 25m in lower fire risk area
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1.0 Introduction

Why conduct a fire risk assessment?

Three reasons;

- i) Legal:** To satisfy the Fire Precautions (Workplace) Regulations 1997 (as amended) 1999, the Management of Health and Safety at Work Regulations 1992 (as amended) 1999 and also paid to the Regulatory Reform (Fire Safety) Order 2005 which came into power in October 2006
- ii) Moral:** Fire kills. In 1997, UK fire brigades attended over 36 000 fires in workplaces. These fires killed 30 people and injured over 2600.
- iii) Financial:** Fire costs money. The costs of a serious fire can be high and afterwards many businesses do not reopen. You can get advice about minimising fire losses from your insurer, or the Fire Protection Association

Description of Premises

The Office building is a portacabin construction, similarly the mess-rooms, changing rooms and toilets in the yard are of similar construction.

Executive Summary

The standard of housekeeping is often an indication of fire risk in premises. The standard of housekeeping in these premises is reasonable although there are a number of defects that require attention.

The satisfactory completion of the recommendations in this report should ensure that the requirements of the regulations are met.

All recommendations are made without prejudice to the Local Authority and the Fire Authority together with their parent legislation.

2.0 Fire Safety legislation

(Any question that is answered **NO** should be subject to an 'action required' in Section 11)

		Yes	No	N/A
2.01	Is the Workplace subject to the conditions of a fire certificate or licence issued under any other Fire Safety Legislation?		NO	
	If Yes Please Give Details:			
2.02	If the premises are subject to the conditions of a fire certificate is a copy held readily available on site?			N/A
2.03	Has liaison taken place with a local fire officer		NO	

3.0 Identification of Fire Hazards

3.01	Sources of Ignition
	• Electricity • Portable heaters
3.02	Sources of Fuel
	• Office waste - paper, cardboard, etc. • Mess room waste • Stationery
3.03	Work Activities Creating a Risk
	• Use of electrical equipment

4.0 Reducing Fire Hazards

Yes No N/A

4.01. Are all flammable liquids stored safely when not in use?

YES

Guidance: All flammable liquids should be stored in a secure location away from any potential sources of ignition or direct heat or a purpose made Flam store / cupboard

4.02. Are all consumable materials stored in a safe manner?

YES

Guidance: Do not store these materials close to heaters or electrical equipment which could run hot and act as a local ignition source.

4.03. Are all gas cylinders (whether full or empty) stored in a safe manner?

YES

Guidance: All stored cylinders need to be suitably restrained, protected from the weather and safe guarded against impact damage. Particular attention should be paid to protecting the valves.

4.04. Is the workplace free from excessive rubbish and waste materials?

YES

Guidance: All rubbish and combustible waste should be removed from buildings on a daily basis. This includes waste packaging, wood sawdust and timber off cuts.

4.05. Is the workplace free from damaged upholstered furniture?

YES

Guidance: Old dilapidated furniture can contribute to the spread of fires, this risk can be further amplified if it has torn upholstery with the combustible filling exposed.

4.06. Are processes such as incineration, welding etc avoided at the workplace?

YES

Guidance: If such processes cannot be avoided a thorough risk assessment and method statement must be produced prior to beginning work. These documents must clearly outline the precautions that will be implemented.

N/A

4.07. Has all oil or gas burning equipment undergone a service/inspection within the previous twelve months?

Guidance: All gas burning equipment (central heating boilers, gas fires etc.) must be inspected / serviced by a CORGI engineer. Oil burning equipment must be inspected / serviced by a competent heating engineer.

Yes No N/A

YES

4.08. Is the use of portable heaters avoided in the workplace?

Guidance: Portable heaters are not recommended as often they are left unattended when in use and they can be positioned near to combustible or flammable materials.

YES

4.09. Are all fixed heaters in a position away from any combustible materials?

Guidance: Using heaters to dry items of clothing is not permitted and items like waste paper baskets/ rubbish containers must not be positioned near any type of heater. The top surface of any heater must be kept clear at all times.

YES

4.10. Have all items of portable electrical equipment undergone a PAT (Portable Appliance Test) within the previous twelve months?

Guidance: Documentary evidence must be available to verify that the equipment has undergone a PAT which has been carried out by a competent electrical engineer.

YES

4.11. Is all the electrical equipment or wiring in use free from visible damage?

Guidance: Equipment can become damaged after an inspection has been completed so it is important that everyone knows that a visual check on electrical equipment must be carried out by the user before it is used.

NO

4.12. Has the fixed wiring at the premises been inspected within the previous five years?

Guidance: Documentary evidence must be available to verify that the fixed wiring has undergone a thorough inspection which has been carried out by a competent electrical engineer. The documentation must clearly state that the electrical systems are deemed to be in a satisfactory state of repair in order to demonstrate compliance with IEE Wiring Regulations.

Yes No N/A ~

NO

4.13. Are intrinsically safe electrical sockets, equipment and lighting fitted in areas where there is a foreseeable risk of flammable vapours or fumes building up?

Guidance: If there is a foreseeable risk of a flammable / explosive atmosphere in the work place, even a tiny spark from a light switch or electrical socket could ignite. Therefore sealed electrical circuits must be ensured.

4.14. Is the use of electrical extension leads kept to a minimum?

YES

Guidance: As well as causing a tripping hazard, extension leads can cause an additional fire hazard. If reel type extension leads they must be fully unwound. Each extension lead must be visually checked each time for damage prior to it being used.

4.15. Are all flexes positioned so that they will not be damaged?

YES

Guidance: Cables (including extension leads) must never be run over or stood on, as they can be easily damaged.

If there is a foreseeable risk that cables may be damaged, suitable protective flexible sheathing must be fitted around the cable prior to it being used.

4.16. Is the use of multi-point adaptors in electrical sockets kept to a minimum?

YES

Guidance: All multipoint adaptors must be connected directly to an electrical socket and in no circumstances are they permitted to be connected to one another.

4.17. Is the prohibition of smoking enforced in all company buildings and enclosed spaces?

YES

Guidance: Legislation and the company smoking policy clearly states that smoking is not permitted in any part of company buildings, including temporary buildings, offices, corridors, toilets etc.

4.18. If there are smokers at the premises is there a designated smoking area outside with suitable waste receptacles provided?

YES

Guidance: The designated smoking area is to be used by visitors and employees and must not be immediately outside any work area i.e. open windows, doors etc.

Yes No N/A

YES

4.19. Has the prohibition of matches and lighters been enforced in high risk areas?

Guidance: In high risk areas matches, lighters and other similar sources of ignition can be struck inadvertently causing a spark. For this reason if there is a high risk area, warning signs must be posted indicating the risk and the prohibition of such ignition sources must be enforced.

YES

4.20. Have reasonable / suitable measures been taken to protect against the risk of arson ?

Guidance: Good security is the best way of protecting against arson. Simple measures like ensuring all windows and doors can be and are locked when premises are unattended, ensuring that all visitors report to reception immediately, employees instructed to challenge any unaccompanied non-employee on the premises, the installation of fireproof metal boxes inside all letter flaps, maintenance of intruder arms etc.

YES

4.21. Are all doors, windows and other openings not required for ventilation kept closed, particularly out of hours working?

Guidance: Simple measures like ensuring all windows and doors can be and are closed particularly when premises are unattended, ensures that no ventilation occurs to increase a fire risk.

NO

4.22. Are all ventilation systems not essential to the workplace shut down?

Guidance: Simple measures like ensuring all windows and doors can be and are closed particularly when premises are unattended, ensures that no ventilation occurs to increase a fire risk.

YES

4.23. Are monthly checks of fire arrangements undertaken by fire wardens?

Guidance: By checking monthly fire wardens can become aware of any changing circumstances and act accordingly.

YES

4.24. Is the standard of housekeeping adequate and do regular Housekeeping Audits take place and is all corrective action acted upon?

Guidance: Good housekeeping is the best way to ensure that the risk of fire is minimised.

5.0 Identification of People at Significant Risk

Yes No N/A
NO

5.01. Is there a register of everybody (employee, visitor) present at the establishment at a particular time?

Guidance: A sign in / out book or notice board register who is in the building at any given time. All visitors must sign in and out of the visitors book. This is necessary for a head count in the event of an emergency

YES

5.02. Is everybody (employee, visitor) safe from significant danger from a fire in the workplace, or when trying to escape from it?

Guidance: All access ways must be kept clear at all times, clearly marked and with no obstructions.

YES

5.03. Are the fire safety measures provided considered adequate to compensate for the significant risk?

Guidance: Reasonable safety measures must be implemented to compensate for the risk hazard of fire.

NO

5.04. Are adequate arrangements in place to respect the requirements of disabled employees or visitors?

Guidance: While assessing arrangements for disabled personnel you must consider people who cannot physically remove themselves to a place of safety (in a timely fashion), people who are predominately deaf or people who are blind or only partially sighted.

6.0 Fire Detection and Fire Warning

Fire safety systems such as 'Fire Warning Systems' and 'Emergency Lighting Systems' must be maintained in effective working order and available for use at all times. Tests and maintenance are to be carried out in accordance with manufacturer's instructions and recorded.

Description of fire detection and fire warning system:

The only fire detection system is visual. All employees are instructed to be vigilant and give a fire warning if any incident occurs..

Alarms are by air horns situated throughout the premises.

The premises are occupied 24 hours per day so there is always a person effectively on fire watch.

The fire alarm warning system is sounded by airhorn on detection of smoke or heat in some areas..

Yes No N/A

6.01. If fire detection / warning devices are fitted, are they tested regularly?

YES

Guidance: Fire warning devices can range from automatic fire detection / warning systems to smoke alarms.

Each device should be tested.

Testing of these items should be carried out at planned intervals so that people become accustomed to the sound of the warning device and they will also know that it is only a test and not a genuine incident.

YES

6.02. Are suitable fire alarm sounders used at the premises in order to raise the alarm?

Guidance: You must have a suitable method for raising the alarm. This can range from an air horn to a bell to an electrical detection / warning system.

YES

6.03. Are fire alarm sounders tested regularly?

Guidance: Fire alarm sounders should be tested on a weekly basis.

Testing of these items should be carried out at approximately the same time each week so that people can be accustomed to the sound of the warning device and they will know that it is only a test and not a genuine incident.

6.04. Is there a sufficient number of fire alarm sounders located around the premises?

Yes No N/A

YES

Guidance: In the event of a fire the alarm must be able to be raised from a place of safety. This may mean that multiple fire call points should be required around the premises.

6.05. Are fire call points clearly visible and unobstructed?

YES

Guidance: Manual fire alarm call points should be mounted in conspicuous positions on exit routes and / or final exits.

7.0 Means of Escape

Fire exits must be open able without the use of a key. They must be unobstructed and available for use at all times when the premises are occupied. Items which pose a potential fire hazard and those which could cause an obstruction should not be installed or stored in corridors and stairway enclosures.

Description of means of escape:

The main reception area and 2 other fire doors are used as a means of escape from the office unit. Escape from the other buildings is directly into the main yard, which is the assembly point.

Yes No N/A

YES

7.01. Are the above means of escape provisions considered adequate for the risk - suitable number of exits that lead to a place of safety?

Guidance: A place of safety is a place in which a person is no longer in danger from fire. The designated place of safety must not be in a dead end that could be cut off if a fire was to spread.

Yes No N/A

YES

7.02. Are means of escape free of obstruction? Is there an ongoing programme in place to ensure that this condition remains?

Guidance: Escape routes and final exits must never be obstructed even if the obstruction is perceived to be temporary.

7.03. Are all escape routes clearly signed?

YES

Guidance: Are all escape routes (other than the normal route used for entering / leaving a building) clearly displaying the necessary pictorial signs (a running man with directional arrows pointing to the way of safety)

7.04. Are all escape routes free from tripping / slipping hazards?

YES

Guidance: Changes of level on the floor, extension leads, unstuck floor tiles, loose mats, etc., can all cause potential slips / trips. These hazards can be magnified during an emergency situation

7.05. Are final exits always unlocked when the premises are in use?

YES

Guidance: If for security reasons final exits must be kept secured during working hours, they must be able to be opened from the inside without the use of a key e.g. sliding bolt, push bar etc.

7.06. Are steps and stairs in a good state of repair?

YES

Guidance: Loose handrails, raised / loose floor tiles, damaged nosings on steps, etc., may cause a person to trip / slip during an emergency situation.

7.07. Are fire action notices displayed prominently in the workplace?

YES

Guidance: Fire action notices should be displayed on each exit route as a minimum. This helps to ensure that everyone knows where to go and what to do in the event of an emergency.

NO

7.08. Is the provision of emergency escape lighting where required, satisfactory?

Guidance: Emergency lighting may need to be considered if it is likely that the escape routes will be

- o *Used outside daylight hours (not inclusive of dusk or dawn)*
- o *There are no windows or skylights*
- o *Underground parts of a premises*
- o *In open plan offices larger than 60m²*

Emergency lighting can be a reliable method of illumination that is not dependant on mains supply electricity

YES

7.09. Are the devices securing final exits capable of being opened immediately and easily without the use of a key?

Guidance: Doors must not be locked. Simple measures like a push bar or lock release must be provided to the inside of the doors.

Doors must be checked against swelling and becoming tight.

7.10. Are self closers on doors operating correctly?

YES

Guidance: Fire doors must be provided with self closers and not wedged open.

YES

7.11. Do the doors on escape routes open in the direction of travel?

Guidance: Escape doors must open in the direction of travel.

NO

7.12. If there are disabled employees or visitors at the premises are special provisions in place for their safe evacuation?

Guidance: While assessing arrangements for disabled personnel you must consider people who cannot physically remove themselves to a place of safety (in a timely fashion), people who are predominately deaf or people who are blind or only partially sighted.

8.0 Means of Fighting Fire

All firefighting equipment is to be maintained in good working order and available for use at all times. Visual examinations and tests are to be carried out in accordance with company policies and procedures.

Description of means for fighting fire

Foam
extinguishers
CO₂ extinguishers
Dry powder
Fire Hose

Yes No N/A

8.01. Is the means for fighting fire considered adequate for the risk, positioned correctly and readily accessible?

YES

Guidance: Firefighting equipment must be positioned where it is easily accessible and it is in the most suitable place for its use.

8.02. Are adequate numbers of suitable fire extinguishers located throughout the facility?

YES

Guidance: As a rule of thumb there should be three extinguishers at each premises; one foam, one water, one dry powder. If the premises have more than one storey then additional extinguishers will be required for each additional storey.

8.03. Are all the extinguishers serviced annually?

YES

Guidance: All extinguishers must be serviced by a "competent person" on an annual basis. Any redundant extinguishers that have not been serviced must be removed from service and quarantined.

8.04. Has staff been trained in the use of fire extinguishers?

YES

Guidance : All staff must be trained in the use of fire extinguishers and the basic elements of fire fighting

8.05. Have personnel been briefed on actions in event of fire?

YES

Guidance: All staff needs to be briefed on their immediate action in the event of a fire, together with assembly point and action to be taken at the assembly point.

8.07. Has a fire assembly point been designated?

YES

Guidance: The fire assembly point must be clearly notified to all employees / visitors through notices and tool box talks,

8.08. Have fire wardens been appointed and their names displayed?

NO

Guidance: Fire wardens must be appointed, their names known by all employees / visitors and their position and authority made clear by management.

9.0 Maintenance and Testing

Yes No N/A

9.01. Are fire doors, escape routes and fire safety signs checked regularly?

YES

Guidance: All fire doors, escape routes and signs to be checked regularly and any necessary corrective action to be carried out immediately. Records to be kept of inspections.

9.02. Is the emergency escape lighting system where required adequately tested and maintained and records kept?

N/A

Guidance: All escape lighting systems to be checked regularly and any necessary corrective action to be carried out immediately. Records to be kept of inspections.

9.03. Is the means for fighting (extinguishers, sprinklers, etc) adequately tested and maintained and records kept?

YES

Guidance: All firefighting equipment to be checked regularly and any necessary corrective action to be carried out immediately. Records to be kept of inspections.

9.04. Is the emergency escape lighting system where required adequately tested and maintained and records kept?

N/A

Guidance: All emergency lighting systems to be checked regularly and any necessary corrective action to be carried out immediately. Records to be kept of inspections.

9.05. Are all other fire safety measures and equipment adequately tested and maintained?

YES

Guidance: All other fire safety measures and equipment to be checked regularly and any necessary corrective action to be carried out immediately. Records to be kept of inspections.

10.0 Fire Procedures and Training

All occupants of the premises are to receive regular instruction and practical training in the action to take in case of fire, including assisting or directing visitors from the premises. Training periods and drills are to be recorded.

Yes No N/A

10.01. Is there an emergency plan in place?

YES

Guidance: An emergency plan must be prepared giving details of procedure and responsibilities in a fire situation.

10.02. Has an Emergency Co-Ordinator and a Deputy been appointed and details displayed?

NO

Guidance: The Emergency co-ordinator will provide guidance and direction in the event of an emergency. A deputy must be in place to offer cover for sickness / holidays.

10.03. Have all employees been instructed / trained within the previous year in

YES

- o How to raise the alarm
- o The action to be taken on discovering a fire
- o The evacuation procedure
- o The location of firefighting equipment
- o The location and use of escape routes
- o The position of the emergency assembly point(s)

Guidance: All employees must receive training / instructions on the above items. This must be recorded in the individual training records.

YES

10.04. Has the entire workforce participated in a fire drill in the last twelve months and records kept?

Guidance: A full fire drill must be carried out at least once per year. This must be recorded in the individual training records.

N/A

10.05. Are there arrangements in place to ensure that outside contractors and maintenance workers receive necessary fire safety information?

Guidance: All outside contractors and maintenance workers receive an induction before starting work.

10.06. Are fire instruction notices provided throughout the workplace?

YES

Guidance: Fire instruction notices to be positioned at points where they are most visible and most suitable for their positioning.

10.07. Are adequate arrangements in place to assist in the evacuation of people with special needs?

NO

Guidance: While assessing arrangements for disabled personnel you must consider people who cannot physically remove themselves to a place of safety (in a timely fashion), people who are predominately deaf or people who are blind or only partially sighted.

10.08. Are records kept in a Logbook of all tests, examinations, training and drills, that is then retained on the premises for inspection by visiting Inspectors

YES

Guidance: A record must be kept of all tests, examinations training and drills. A back up of this must also be kept in case originals are lost in a fire.

10.09. Has a fire plan been drawn up?

YES

Guidance: A fire plan must be drawn up to cover all eventualities that could occur as a result of a fire.

11.0 Action Required

Section Number	Action	Date Completed	Signed
4.0	Reducing Fire Hazards. Any portable electric heaters that are provided within the premises should be reduced to a minimum and tested on an annual basis by a competent person. All heaters should be switched off and unplugged at the end of each day. This should be communicated to all staff and notices should be displayed to emphasize this.		

	Review existing heating system and reduce the use of Portable electric heaters where reasonably practicable No smoking signs should be displayed sporadically throughout the building Continuous auditing of mess rooms and offices to take place. Non PAT teted equipment is being brought into the cabins, eg fridges, tv's etc. This action must be stopped. Waste materialunust be removed immediately and allowed to build up. The standard of house keeping throughout is of a reasonable standard but must be contantly All combustible materials should be kept to a minimum and waste removed on a daily basis Ensure all fire alarm call points are clearly visible, in good condition and unobstructed with charged air horns.		
5.0	Identification of people at significant risk A sign in / out book or notice board register who is in the building at any given time to be set up. A visitors signing in / out book to be provided There are no arrangements for disabled employees or visitors provided. This situation to be connected		
6.0	Fire detection and fire warning Fire detection and warning is adequate but all employees must be constantly reminded of the procedures and action required in the event of fire Regular fire drills are to take place.		
7.0	<u>Means of Escape</u> Call points signs should be displayed at each Fire Evacuation Procedures and should be prominently displayed.		

	Fire wardens should be appointed. Where there are flammable materials stored signage should again highlight this i.e. cleaner's cupboards storage etc. No smoking signs should also be displayed. All areas where there is a risk of electric shock should I		
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Glass Tech Recycling Ltd

INDUCTION PROCEDURES FOR NEW STAFF

1. INTRODUCTION

Glass Tech Recycling Ltd is committed to ensuring that all staff receive the appropriate development and support to enable them to carry out their jobs effectively and efficiently leading to an environment conducive to customers and job satisfaction.

All new staff are required to complete an induction programme which has been designed to ensure that all relevant topics are covered in a timely manner to provide maximum benefit to the individual and the Company.

Informing new staff of key processes and procedures during the early stages of their employment not only provides staff with the framework to work efficiently, effectively and to maximum potential, but also projects a professional image of the Company signalling that it values all members of staff and is committed to their development and well-being

2. SCOPE

This policy applies to all full time, and part time staff employed at Glass Tech Recycling Ltd.

3. PRINCIPLES

- All new staff employment should commence with all staff reporting for an introductory session.
- All new employees (i.e. full-time and part-time) are expected to attend the first possible Main Induction session.

4. RESPONSIBILITIES

Management Team:

- To ensure all new staff commence employment and advise all new staff of times and dates of Initial Induction (Introduction to Company) and ensure attendance
- To enter names for Main Induction onto register during Initial Induction and liaise with Staff Development.
- To ensure that all new staff have completed a staff application form complete with bank account details and these details have been checked.

APPENDIX 1

INTRODUCTION TO COMPANY/ORIENTATION

All employment should commence with all staff reporting to a member of Management for an introductory session which will include:

- Tour of building
- Staff facilities
- Identification of key personnel
- Security procedures – personnel and fire evacuation
- First Aid procedures
- Weighbridge operations (if required)
- Health & Safety

During Session:

Staff to be:

- Issued with PPE if appropriate

After Session:

- Names dates for Main Induction to be passed on to Administration for recording.



ENVIRONMENTAL POLICY STATEMENT

1. It is the policy of Glass Tech Recycling Limited to develop an environmentally aware workforce and to manage its activities so as to avoid unnecessary or unacceptable risks to employees, others who may be affected by our work activities and the environment.
2. Glass Tech Recycling will manage its activities to minimise the environmental impact of its operations and to continuously improve its environmental performance in strict conformance with **BS EN ISO14001:2004**
3. The Company recognises its duties and responsibilities towards protecting our environment and is committed to continual improvement

Set, monitor and discuss the environmental policy, objectives and targets at regular Management Review Meetings, where environmental issues and the company's environmental performance will be reviewed

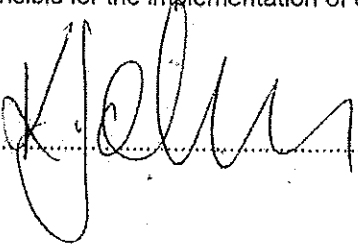
We will as far as is reasonably practicable ensure that :-

- a) This policy is drawn to the attention of all employees
- b) All activities undertaken by the Company will be conducted in such a way to cause the minimum practicable impact upon the environment.
- c) Any possible impact which activities have on the environment are communicated to the Client for inclusion in the overall assessment of the site.
- d) Procedures are developed and implemented to ensure that risk of spillages or discharges of chemicals, paint or any other environmentally hazardous materials are minimised.
- e) Where spillages or discharges occur, procedures exist for dealing with them quickly and effectively.
- f) Generation of waste is minimised and consideration given to recycling of materials.
- g) Products with the lowest impact upon the environment are used in preference to others all other factors being equal.
- h) The compliance with all relevant national and international legislation including Railway Group Standards and Network Rail requirements and align with Network Rail policy statements

It shall be the duty of every employee of the Company:-

- a) To be aware of the Company Environmental Policy and to take all reasonable steps to implement it personally.
 - b) To co-operate with management so far as it is necessary to enable the policy and duties to be fulfilled.
 - c) To inform management or supervision of any work situation or defect, of which they are aware, that may endanger the environment.
5. Close liaison will be effected with the Environment Agency, Local Authorities and other Organisations concerned with the environmental issues.
6. Mrs Karen John, Managing Director, will be responsible for the implementation of our Environmental Policy.

Date: January 2011

Signed..........K. John

GLASS TECH RECYCLING LIMITED

ISO 14001 : 1996

ENVIRONMENTAL MANAGEMENT SYSTEM

POLICY MANUAL

Issue 01

GLASS TECH RECYCLING LIMITED**MANUAL REVISION INDEX****ENVIRONMENTAL POLICY MANUAL**

<u>SECTION</u>	<u>DETAILS OF CHANGE</u>	<u>DATE</u>	<u>AUTHORISED</u>
All policy	First issue of documentation Issue 01	June 2004	D.H.Edwards
All policy	Documentation reviewed and corrected Issue 2	July 2004	D.H.Edwards
All policy	Documentation further corrected Issue 3	August 2004	D.H.Edwards

GLASS TECH RECYCLING LIMITED
ENVIRONMENTAL MANAGEMENT SYSTEM
POLICY MANUAL
ISSUE 01

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GLASS TECH RECYCLING LIMITED
ENVIRONMENTAL MANAGEMENT SYSTEM
POLICY MANUAL

ISSUE 01

CONFIDENTIALITY OF POLICY MANUAL

This document sets out the Company's Environmental Management System Policy and defines the environmental related responsibilities and organisation necessary to realise the policy.

The Company will at planned intervals, review and if necessary update the manual to ensure it represents the objectives set out in the Company's Environmental Policies.

This document is strictly confidential to the recipient and its contents are not to be disclosed to other parties without the written consent of the Company.

GLASS TECH RECYCLING LIMITED
ENVIRONMENTAL MANAGEMENT SYSTEM

POLICY MANUAL

ISSUE 01

COMPANY PROFILE

Glass tech recycling Limited is a specialist glass recycling organisation that commenced operations in 2011. The Organisation operates from premises at Swansea, South Wales where it has gained an excellent reputation for quality of work and for the service it provides.

The principal operation of the Company is a glass collection and recovery service to a variety of customers in commerce and industry.

Its tradesmen are all highly experienced and qualified operators, chosen for their known skills.

The Company is accredited to BS EN ISO 9001-2000 and the registration number is 07479819.

As part of the Companies on going strategy for improvement it is now working towards accreditation to ISO 14001 Environmental Management System.

Recovering glass is an innovative process, helping the licensed businesses to reduce their waste disposal costs but also help the environment by reducing landfill requirement

MANAGEMENT STRUCTURE

GLASS TECH RECYCLING LTD.**ENVIRONMENTAL MANAGEMENT SYSTEM****ORGANISATION AND RESPONSIBILITIES****1 Responsibility and Authority****1.1 Management Representative**

The Managing Representative within the Organisation is the Environmental Manager. Her function within this capacity is to maintain and have responsibility for the Environmental Management System. She will have the authority to ensure that ISO 14001 is complied with and that compliance is maintained. She also has the responsibility to ensure that the systems requirements are implemented and operated throughout the Company. She reports on the performance of the Environmental Management System to the management for review and as a basis for improvement in the Environmental System.

1.2 Purpose

The purpose of this section is to ensure that any particular issue of the Environmental Manual is uniquely identified, and that changes to the manual and subsequent re-issue are properly controlled.

1.3 Implementation

1.3.1 Each section of the manual is identified by its own individual issue and page number. The manual as a whole also has an issue number.

1.3.2 Changes to the manual contents will only be made by the Environmental Manager.

1.3.3 If the changes involve working practices, the changed section will have its Issue number increased by one.

1.3.4 All issue changes will be recorded in the Manual Revision Index with details of any changes made.

1.3.4 Any Glass Tech Recycling personnel that receive a copy of the Environmental Manual will be entered onto the Environmental Manual Distribution Chart.

Table A.2

Table A.2

POLICIES

CORRESPONDENCE RECORD

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MANUAL ADMINISTRATION

SECTION 1

SCOPE

GLASS TECH RECYCLING LTD

ENVIRONMENTAL MANAGEMENT SYSTEM

POLICY MANUAL

ISSUE 01

Scope

1.1 Glass recycling services.

MANUAL ADMINISTRATION

SECTION 2

NORMATIVE REFERENCE

GLASS TECH RECYCLING LTD.
ENVIRONMENTAL MANAGEMENT SYSTEM

POLICY MANUAL

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NORMATIVE REFERENCE

There are no Normative References in ISO 14001- 1996 Environmental Management Systems at present.

MANUAL ADMINISTRATION

SECTION 3

DEFINITIONS

GLASS TECH RECYCLING LTD.

ENVIRONMENTAL MANAGEMENT SYSTEM

POLICY MANUAL

ISSUE 01

DEFINITIONS

For the purpose of the International Standard the terms and definitions given in ISO 14001 describe the supply chain as :-

SUPPLIER -----ORGANISATION-----Customer

SECTION 4

Environmental Management System Requirements

Chapter 1

INTRODUCTION

CHAPTER 1

INTRODUCTION

Ref: BS/EN/ISO14001 4.1

Glass Tech Recycling Ltd, are situated in Swansea, South Wales and offer a unique glass collection , recycling and disposal service throughout the area.

This EMS is designed to satisfy the following objectives:

- Compliance with relevant environmental legislation, regulations and other standards.
- An understanding of the Company's environmental impacts
- Implementing a continual improvement program to reduce this impact on the environment.

This manual describes how the activities of Glass Tech Recycling Ltd.meet the requirements of the Standard. Where relevant, appropriate sections of the Quality Management System are referenced.

Chapter 2

Environmental Policy

CHAPTER 2

ENVIRONMENTAL POLICY

Ref: BS/EN/ISO 14001 4.2

2.1 The policy clarifies the Company's commitment to the environment. It has been communicated to all employees and is displayed in all Environment manuals and also on notice boards in the Main and all Site offices.

2.2 The policy is reviewed at the annual management review meeting, (See Section 6) and as part of the internal audit schedule.

ENVIRONMENTAL POLICY**GLASS TECH RECYCLING LTD.**

1. It is the policy of Glass Tech Recycling Ltd. to develop an environmentally aware workforce and to manage its activities so as to avoid unnecessary or unacceptable risks to employees, others who may be affected by our work activities and the environment.
2. So as to minimise the risk of all forms of land, water and air pollution and nuisance due to odour and noise, our operations will be carried out in accordance with the relevant parts of our Company Safety Policy, the recommendations in British Standard Environmental Management Systems and the Environmental Protection Act 1990 EN/ISO14001 - 1996.

The Company recognises its duties and responsibilities towards protecting our environment and is committed to continual improvement. Regular management meetings review environmental objectives and targets.

The Company has formulated the following statement of policy :-

We will as far as is reasonably practicable ensure that :-

- a) This policy is drawn to the attention of all employees
- b) All activities undertaken by the Company will be conducted in such a way to cause the minimum practicable impact upon the environment.
- c) Any possible impact which activities have on the environment are communicated to the Client for inclusion in the overall assessment of the site.
- d) Procedures are developed and implemented to ensure that risk of spillages or discharges of chemicals, paint or any other environmentally hazardous materials are minimised.
- e) Where spillages or discharges occur, procedures exist for dealing with them quickly and effectively.
- f) Generation of waste is minimised and consideration given to recycling of materials.
- g) Products with the lowest impact upon the environment are used in preference to others all other factors being equal.

It shall be the duty of every employee of the Company:-

- a) To be aware of the Company Environmental Policy and to take all reasonable steps to implement it personally.
 - b) To co-operate with management so far as it is necessary to enable the policy and duties to be fulfilled.
 - c) To inform management or supervision of any work situation or defect, of which they are aware, that may endanger the environment.
3. Close liaison will be effected with the Environment Agency, Local Authorities and other Organisations concerned with the environmental issues.
 4. Karen John, Director, will be responsible for the implementation of our Environmental Policy.

Date.....

Signed.....

Chapter 3

PLANNING

CHAPTER 3**PLANNING****Ref BS/EN/ISO 14001 4.3****3.1 Environmental Aspects: (ref: BS/EN/ISO 14001 4.3.1)**

A register of Environmental Aspects has been compiled, which allows significant aspects to be identified, scored and updated as shown in Environmental Procedure **EP01**.

3.2 Legal and Other Requirements (ref: BS/EN/ISO 14001 4.3.2)

Glass Tech Recycling has identified environmental legislation relevant to its business, and implemented a procedure to keep up to date with developments in legislation. See Environmental Procedure **EP02**.

3.3 Targets and Objectives (ref: BS/EN/ISO 14001 4.3.3)

Nationwide Recycling has set itself a series of Objectives and Targets based on information given in the Aspects Register and Register of Environmental Legislation, **EPO3** further outlines Environmental Considerations and provides a mechanism for their review.

3.4 Environmental Management Programme (ref: BS/EN/ISO 14001 4.3.4)

D. Edwards as EMS Co-ordinator will nominate individuals within Glass Tech Recycling to be responsible for progressing individual objectives within a set timetable. This is shown in Environmental Procedure **EPO3**.

Works Procedures have been written and implemented, where necessary, ensuring the appropriate part of the environmental programme is maintained.

Chapter 4

Implementation and Operation

CHAPTER 4

IMPLEMENTATION AND OPERATION

4.1 Structure and Responsibility (ref: BS/EN/ISO 14001 4.4.1)

in Roles, responsibility and authorities shall be defined, documented and communicated order to facilitate effective environmental management.

The Management Structure Chart is shown on Page 6 of this Policy Manual.

Glass Tech Recycling management shall provide resources essential to the implementation and control of the environmental management system. Resources include human resources and specialized skills, technology and financial resources.

of The organisations top management shall appoint Claire Lambourne who, irrespective other responsibilities shall have defined roles, responsibilities and authority for:

- ensuring the environmental management system requirements are established, implemented and maintained in accordance with the International Standard
- reporting on the performance of the environmental management system to top management for review and as a basis for improvement of the environmental management system.

4.2 Training, Awareness and Competence (ref: BS/EN/ISO 14001 4.4.2)

The organisation shall identify training needs. It shall require that all personnel whose work may create a significant impact upon the environment, have received appropriate training. It shall establish and maintain procedures to make its employees or members at each relevant function and level aware of:

- the importance of conformance with the environmental policy and procedures and with the requirements of the environmental management system;
- the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved performance;
- their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the environmental management system, including emergency preparedness and response requirements;
- the potential consequences of departure from specified operating procedures.

shall Personnel performing the tasks which can cause significant environmental impacts be competent on the basis of appropriate education, training and/or experience.

This is shown in Environmental Procedure EP04

4.3 **Communication** (ref: BS/EN/ISO 14001 4.4.3)

With regard to its environmental aspects and environmental management system, the organisation shall establish and maintain procedures for:

- internal communication between the various levels and functions of the organisation.
- receiving, documenting and responding to relevant communication from external interested parties.

The organisation shall consider processes for external communication on its significant environmental aspects and record its decision.

This is shown in Environmental Procedures EP05

4.4 **EMS Documentation** (ref: BS/EN/ISO 14001 4.4.4)

A two-tier EMS system is established, namely:

- This Environmental Manual
- Procedures

The Environmental Co-ordinator is responsible for these documents. Procedures are generic to both the Quality and Environmental Systems and have been updated to include the relevant documentation.

This is shown in Environmental Procedures EP05

4.5 **Document Control** (ref: BS/EN/ISO 14001 4.4.5)

Environment Procedures EPO5 defines how the Environment Management system documentation will be controlled within Nationwide Recycling.

This is shown in Environmental Procedures EP05

4.6 **Operational Control** (ref: BS/EN/ISO 14001 4.4.6)

Environmental Procedures have been written to take account: See EPO6, EPO7 & EP13.

- Legislation and Special Regulations
- The need to ensure compliance with the Environmental Policy, Targets and Objectives.
- Relevant environmental criteria and appropriate practices.
- Measurement and Monitoring where practicable.
- Any control measures in respect of bought in materials or materials awaiting disposal.
- Management of Glass collection and recycling

4.7 Emergency Preparedness and Response (ref:BS/EN/ISO 14001 4.4.7)

Possible emergencies are covered in Environmental Procedure EPO8 where practicable, emergency procedures are tested.

Chapter 5

Checking and Corrective action

CHAPTER 5**CHECKING AND CORRECTIVE ACTION****Ref BS/EN/ISO 14001 4.5****5.1 Monitoring and Measurement ref: BS/EN/ISO 14001 4.5.1**

Objectives and Targets will be reviewed in accordance with Environmental Procedure EPO3. Environmental Aspects are measured as described in Environmental Procedure EPO1. Compliance with legislation is ensured as described in Environmental Procedure EPO2. The above will be addressed by the Environmental Co-ordinator monthly and reviewed at the annual Management review meeting.

No measuring equipment is required for environmental management at Glass Tech Recycling Ltd.

The company has established and maintains a documented procedure to monitor and measure environmental situations on a regular basis. This includes the recording of information to track performance, relevant operational controls and conformance by constant internal and external auditing.

5.2 Non Conformance, Corrective and Preventative Action: BS/EN/ISO 14001 4.5.2)

The company will establish, document and maintain procedures to ensure that Non-conforming incidents will be attended to and if possible prevented from happening in the future.

5.2.1 Non - Conformance:

Environmental Non-conformities at Glass Tech Recycling can arise for the following reasons:

- Failure to observe the Policy Manual or Procedures.
- Unforeseen / Changed circumstances
- Comment / complaint from external source.

The person first aware of a non-conformance must complete a Non-Conformance Report (see Procedure EPO9) and pass the report to the Managing Director or Quality Manager.

This is shown in Environmental Procedure EP09

5.2.2 Corrective and Preventative Action

NCR'S and audit reports are assessed by Claire Lambourne who will determine the appropriate action / response. Any non-conformance will be addressed within 6 weeks unless classed as urgent, which will be dealt with immediately.

Practice and procedure will be amended in the light of any findings. The NCR's and audit reports are also discussed at the management review meetings.

This is shown in Environmental Procedure **EP09**

5.3 Records ref: *BS/EN/ISO 14001 4.5.3*

All environmental records supporting the EMS are listed under EP10 Records along with their location, responsible issuer and retention times.

This is shown in Environmental Procedure **EP10**

5.4 EMS Audit ref: *BS/EN/ISO 14001 4.5.4*

The Environmental Co-ordinator is responsible for arranging audits ensuring each part of the EMS is audited at least once a year. Audit results form part of the annual Management Review.

Additional audits can be scheduled if an audit reveal weakness, which merit extra attention.

Environmental Audit schedule and associated procedure is described in Environmental Procedure **EP11**.

Chapter 6

MANAGEMENT REVIEW

CHAPTER 6

MANAGEMENT REVIEW

Ref: BS/EN/ISO 14001 4.6

6.1 Review Meeting

The Environmental Co-ordinator will convene a meeting, at least every 3 months to review the EMS ensuring it is still relevant to the activities of the organisation and continues to be effective.

An Executive Management meeting will take place every January to review overall working and the operation of the Environmental Management System

6.2 Attendance

Directors

Company Secretary

Supervisors

- Other personnel will be seconded to a particular meeting, where their attendance will beneficially contribute to the progressing of a specific subject situation.

or

6.3 Agenda

Agenda for the meeting will include:

Previous minutes

Performance review from Non-Conformance and Audit results

Review of Environmental Aspects

Legislation

Review the progress of current Targets and Objectives

Set new Targets and Objectives

Review the Environmental Policy, Manual and Procedures

Assess any training needs

Any other business.

6.4 Follow up

The Environmental Co-ordinator will issue and distribute minutes, which include action points. A copy of the minutes will be displayed on the environmental notice boards for everyone's attention. A copy will be retained for the Environmental records.

This is shown in Environmental Procedure EP12



GLASS TECH RECYCLING LTD
C.O.S.H.H. ASSESSMENT

Product name Hydraulic OIL

Usage Fluid used for hydraulic system

Chemical Type Solvent Refined Mineral Oil

Warning statement A low level of Oral Toxicity. May cause mild irritant to eyes and skin.

Safe handling Where there is a risk of splash wear eye protection. It is good practice to wear PVC gloves when using this product. Good personal hygiene is essential. Use barrier creams at all times.

Storage Store in a dry, well ventilated place, away from sources of ignition.

First aid procedures

Ingestion Seek immediate medical advice

Eye contact Irrigate with clean fresh water and seek medical advice.

Skin contact Wash skin with soapy water or use a proprietary skin cleaner.

Inhalation No problem in normal use.

Fire protection information

Flash Point 180 °C

Fire extinguishing media Not a fire risk, use Foam or Dry Powder.

Spillage and waste disposal

Contain and absorb - do not wash into drains.
Wastes, including emptied containers, are controlled wastes and must be disposed of in accordance with regulations.



GLASS TECH RECYCLING LTD
C.O.S.H.H. ASSESSMENT

<u>Product name</u>	MINERAL ENGINE OIL
<u>Usage</u>	Lubricant for Internal Combustion engines
<u>Chemical Type</u>	Solvent Refined Mineral Oil
<u>Warning statement</u>	A low level of Oral Toxicity. May cause mild irritant to eyes and skin.
<u>Safe handling</u>	Where there is a risk of splash wear eye protection. It is good practice to wear PVC gloves when using this product. Good personal hygiene is essential. Use barrier creams at all times.
<u>Storage</u>	Store in a dry, well ventilated place, away from sources of ignition.

First aid procedures

<u>Ingestion</u>	Seek immediate medical advice
<u>Eye contact</u>	Irrigate with clean fresh water and seek medical advice.
<u>Skin contact</u>	Wash skin with soapy water or use a proprietary skin cleaner.
<u>Inhalation</u>	No problem in normal use.

Fire protection information

<u>Flash Point</u>	180 °C
<u>Fire extinguishing media</u>	Not a fire risk, use Foam or Dry Powder.

Spillage and waste disposal

Contain and absorb - do not wash into drains.
Wastes, including emptied containers, are controlled wastes and must be disposed of in accordance with regulations.



GLASS TECH RECYCLING LTD

C.O.S.H.H. ASSESSMENT

Product name Gas Oil (Red Diesel)

Usage Fuel for vehicles on site

Warning statement Flamable liquid and vapours. Inhalation of vapours or Ingestion of material may be hazardous to health

Safe handling Where there is a risk of splash wear eye protection. Wear gloves resistant to chemicals at all times.

Storage Store in a dry, well ventilated place, away from sources of heat, ignition and sunlight.

First aid procedures

Ingestion Seek immediate medical advice

Eye contact Irrigate with clean fresh water and seek medical advice.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skin cleaner.

Inhalation Remove to fresh air. Give nothing by mouth. If unconscious place in recovery position and seek immediate medical advice.

Fire protection information

Fire extinguishing media Water fog, dry powder, foam CO₂. Use water to cool fire-exposed containers.

Spillage and waste disposal

Do not allow in drains or water courses. Wastes, including emptied containers, are controlled wastes and must be disposed of in accordance with regulations.



GLASS TECH RECYCLING LTD
C.O.S.H.H. ASSESSMENT

Product name FULL GLOSS PAINT

Usage Painting of scaffolding materials and plant

Warning statement Flamable liquid and vapours. Inhalation of vapours may be hazardous to health

Safe handling Where there is a risk of splash wear eye protection. Wear gloves at all times.

Storage Store in a dry, well ventilated place, away from sources of heat, ignition and sunlight.

First aid procedures

Ingestion Seek immediate medical advice

Eye contact Irrigate with clean fresh water and seek medical advice.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skin cleaner. Do not use solvents.

Inhalation Remove to fresh air. Give nothing by mouth. If unconscious place in recovery position and seek immediate medical advice.

Fire protection information

Flash point 38° C

Fire extinguishing media Alcohol resistant foam, CO₂

Spillage and waste disposal

Do not allow in drains or water courses. Wastes, including emptied containers, are controlled wastes and must be disposed of in accordance with regulations.



GLASS TECH RECYCLING LTD
C.O.S.H.H. ASSESSMENT

Product name Diesel

Usage Fuel for vehicles

Warning statement Flamable liquid and vapours. Inhalation of vapours or Ingestion of material may be hazardous to health

Safe handling Where there is a risk of splash wear eye protection. Wear gloves resistant to chemicals at all times.

Storage Store in a dry, well ventilated place, away from sources of heat, ignition and sunlight.

Ingestion **First aid procedures**
Seek immediate medical advice

Eye contact Irrigate with clean fresh water and seek medical advice.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skin cleaner.

Inhalation Remove to fresh air. Give nothing by mouth. If unconscious place in recovery position and seek immediate medical advice.

Fire protection information

Fire extinguishing media Water fog, dry powder, foam CO₂. Use water to cool fire-exposed containers.

Spillage and waste disposal

Do not allow in drains or water courses. Wastes, including emptied containers, are controlled wastes and must be disposed of in accordance with regulations.



GLASS TECH RECYCLING LTD

C.O.S.H.H. ASSESSMENT

<u>Product name</u>	Windscreen Wash
<u>Usage</u>	Fluid used for cleaning windscreens
<u>Chemical Type</u>	Ethanol
<u>Warning statement</u>	A High level of Oral Toxicity. May cause irreversible affects to eyes and skin
<u>Safe handling</u>	Where there is a risk of splash wear eye protection. It is good practice to wear PVC gloves when using this product. Good personal hygiene is essential. Use barrier creams at all times.
<u>Storage</u>	Store in a dry, well ventilated place, away from sources of ignition.
<u>First aid procedures</u>	
<u>Ingestion</u>	Seek immediate medical advice
<u>Eye contact</u>	Irrigate with clean fresh water and seek medical advice.
<u>Skin contact</u>	Wash skin with soapy water or use a proprietary skin cleaner.
<u>Inhalation</u>	No problem in normal use. And diluted
<u>Fire protection information</u>	
<u>Flash Point</u>	180 °C
<u>Fire extinguishing media</u>	Not a fire risk, use Foam or Dry Powder.

Spillage and waste disposal

Contain and absorb - do not wash into drains.



Material Safety Data Sheet

According to 91/155 EEC

Page 1/4

Printing date 20.12.2005

Version: I

Reviewed on 04.10.2005

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** NETOSOL
- **Article number:** 0771
- **Application of the substance / the preparation** Absorbent
- **Manufacturer/Supplier:**
Nederland: Zep Manufacturing B.V.
Vierlinghweg 30 / 4612 PN Bergen op Zoom
tel: +31 164-250100 / fax: + 31 164-266710

Importer / Distributor
SGI Limited
Newdigate Place, Dukes Road
Newdigate, Surrey RH5 5BP
United Kingdom
Tel: +44 845 2601990
Fax: +44 1293 871 581
E-mail: info@seriouslygoodideas.com

- **Further information obtainable from:**
SGI Limited
Newdigate Place, Dukes Road
Newdigate Surrey RH5 5BP
United Kingdom
Tel: +44 845 2601990
- **Information in case of emergency:**
SGI Limited
Newdigate Place, Dukes Road
Newdigate, Surrey. RH5 5BP
tel: +44 845 2601990

2 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Mixture of substances listed below with nonhazardous additions.
- **Dangerous components:** Void
- **Additional information:** Ingredients according to detergents guideline EEC 89/542:
For the wording of the listed risk phrases refer to section 16.

3 Hazards Identification

- **Hazard description:** Not applicable.
- **Information concerning particular hazards for human and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Additional information:** The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds.

4 First-aid measures

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.

(Contd. on page 2)



Material Safety Data Sheet

According to 91/155 EEC

Page 2/4

Printing date 20.12.2005

Version: 1

Reviewed on 04.10.2005

Trade name: NETOSOL

(Contd. of page 1)

5 Fire-fighting measures

- Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Protective equipment: No special measures required.

6 Accidental release measures

- Person-related safety precautions: Not required.
- Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.
- Measures for cleaning/collecting: Pick up mechanically.
- Additional information: No dangerous substances are released.

7 Handling and storage

- Handling:
 - Information for safe handling: No special measures required.
 - Information about fire - and explosion protection: No special measures required.
- Storage:
 - Requirements to be met by storerooms and receptacles: No special requirements.
 - Information about storage in one common storage facility: Not required.
 - Further information about storage conditions: None.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists valid during the making were used as basis.
- Personal protective equipment:
 - General protective and hygienic measures: Wash hands before breaks and at the end of work.
 - Respiratory protection: Not required.
 - Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 - Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
 - Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Not required.

9 Physical and chemical properties

• General Information

Form:	Solid
Colour:	According to product specification
Odour:	Characteristic

• Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.

• Flash point: Not applicable.

• Self-igniting: Product is not selfigniting.

• Danger of explosion: Product does not present an explosion hazard.

(Contd. on page 3)

GB



Material Safety Data Sheet

According to 91/155 EEC

Page 3/4

Printing date 20.12.2005

Version: 1

Reviewed on 04.10.2005

Trade name: NETOSOL

(Contd. of page 2)

- | | |
|---|-----------------|
| Density: | Not determined. |
| Solubility in / Miscibility with water: | Insoluble. |
| Solvent content: | |
| Organic solvents: | 0.0 % |
| Water: | 1.0 % |

10 Stability and reactivity

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Dangerous reactions: No dangerous reactions known.
- Dangerous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Acute toxicity:
- Primary irritant effect:
 - on the skin: No irritant effect.
 - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

12 Ecological information

- General notes: Generally not hazardous for water

13 Disposal considerations

- Product:
- Recommendation: Smaller quantities can be disposed of with household waste.

European waste catalogue

- | | |
|----------|---|
| 15 02 02 | absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances |
| 15 01 02 | plastic packaging |

- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- Land transport ADR/RID (cross-border)
- ADR/RID class: -
- Maritime transport IMDG:
- Marine pollutant: No

(Contd. on page 4)



Material Safety Data Sheet
According to 91/155 EEC

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Printing date 20.12.2005

Version: 1

Reviewed on 04.10.2005

Trade name: NETOSOL

(Contd. of page 3)

15 Regulatory information

- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).
- **Safety phrases:**
2 Keep out of the reach of children.
- **Special labelling of certain preparations:**
Safety data sheet available for professional user on request.
- **National regulations:**
- **Waterhazard class:** Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:** SGI Limited / Customer services / Tel: +44 845 2601990
- **Contact:** SGI Limited / Customer services / Tel: +44 845 2601990

GB

SAFETY DATA SHEET

Version 1.22
Revision Date 11.05.2012

MSDS Number 300000000002
Print Date 11.09.2012

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product identifier :

Chemical formula : C₂H₂

Synonyms : Acetylene (dissolved), Ethyne, welding gas

Refer to Section 3 for REACH information

Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Manufacture of Substance - PROC 1, PROC 2, PROC 8a, PROC 8b Use as a Fuel - PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 16, PROC 19 Welding, cutting, heating, brazing and soldering applications - PROC 16 Metal coating by spray gun - PROC 16 Lubrication of moulds for manufacture of glass bottles - PROC 17 Low pressure carburizing of steels - PROC 22 Fuel gas of the flame in analyzers by atomic absorption (AAS). - PROC 3 Use for electronic component manufacture - PROC 1 Using gas alone or in mixtures for the calibration of analysis equipment - PROC 3 Using gas as feedstock in chemical processes - PROC 1

Restrictions on Use : No data available.

Details of the supplier of the safety data sheet : Air Products Plc
2 Millennium Gate
Westmere Drive
Crewe
Cheshire

Email Address – Technical Information : GASTECH@airproducts.com

Telephone : +44(0)8457 020202

Emergency telephone number (24h) : 1. Cylinder 0500 020202 / +44 870 190 6874
2. Bulk 0500 020202 / +44 2030 240 571
3. Medical 0500 020202 / +44 1270 218 050

2. HAZARDS IDENTIFICATION

Classification according to Regulation 1272/2008 (CLP)

Flammable gases - Category 1 H220:Extremely flammable gas.

Gases under pressure - Dissolved gas H280:Contains gas under pressure; may explode if heated.

Label Elements according to Regulation 1272/2008 (CLP)

Hazard pictograms/symbols

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Signal Word: Danger

Hazard Statements:

H220:Extremely flammable gas.

H280:Contains gas under pressure; may explode if heated.

EUH006:Explosive with or without contact with air.

Precautionary Statements:

Prevention : P210:Keep away from heat/sparks/open flame/hot surfaces. - No smoking.

Response : P377 :Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 :Eliminate all ignition sources if safe to do so.

Storage : P403:Store in a well-ventilated place.

Classification (Directive)

F+ Extremely flammable

R 5 Heating may cause an explosion.

R 6 Explosive with or without contact with air.

R12 Extremely flammable.

Dispose of cylinder via gas supplier only, inner porous material may contain asbestos.

Other hazards

High pressure gas.

Can cause rapid suffocation.

Extremely flammable.

May form explosive mixtures in air.

Immediate fire and explosion hazard exists when mixed with air at concentrations exceeding the lower flammability limit (LFL).

High concentrations that can cause rapid suffocation are within the flammable range and should not be entered.

Avoid breathing gas.

Self contained breathing apparatus (SCBA) may be required.

Environmental Effects

Not harmful.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture : Substance

Air Products PLC

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Components	EINECS / ELINCS Number	CAS Number	Concentration (Volume)
Acetylene	200-816-9	74-86-2	100 %

Components	Classification (Directive)	Classification (CLP)	REACH Reg. #
Acetylene	F+ R 5 ; R 6 ; R12	Press. Gas Flam. gas 1	01-2119457406-36-

If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, or the registration date has not yet come due. Refer to section 16 for full text of each relevant R-phrases and H-phrases.

Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications. For safety reasons, the acetylene is dissolved in acetone or dimethylformamide in the gas receptacle. Vapour of the solvent is carried away as impurity when the acetylene is extracted from the gas receptacle. The concentration of the solvent vapour in the gas is lower than the concentration limits to change the classification of the acetylene.

4. FIRST AID MEASURES

Description of first aid measures

- General advice : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Skin contact : Not applicable.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Inhalation : In case of shortness of breath, give oxygen. Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Seek medical advice.

Most important symptoms and effects, both acute and delayed

- Symptoms : Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.

Indication of any immediate medical attention and special treatment needed

No data available.

5. FIRE-FIGHTING MEASURES

Extinguishing media

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- Suitable extinguishing media : All known extinguishing media can be used.
- Extinguishing media which must not be used for safety reasons. : No data available.
- Special hazards arising from the substance or mixture : Incomplete combustion may form carbon monoxide. Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Keep containers and surroundings cool with water spray. Extinguish fire only if gas flow can be stopped. If possible, shut off the source of gas and allow the fire to burn itself out. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire. Move away from container and cool with water from a protected position. Keep adjacent cylinders cool by spraying with large amounts of water until fire burns itself out. If flames are accidentally extinguished, explosive re-ignition may occur; therefore, appropriate measures should be taken (e.g. total evacuation to protect persons from cylinder fragments and toxic fumes should a rupture occur).
- Advice for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.
- Further information : No data available.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas. Remove all sources of ignition. Never enter a confined space or other area where the flammable gas concentration is greater than 10% of its lower flammable limit. Ventilate the area.
- Environmental precautions : Do not discharge into any place where its accumulation could be dangerous. Should not be released into the environment. Prevent further leakage or spillage if safe to do so.
- Methods and material for containment and cleaning up : Ventilate the area. Approach suspected leak areas with caution.
- Additional advice : Increase ventilation to the release area and monitor concentrations. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs.

7. HANDLING AND STORAGE

Precautions for safe handling

Acetylene cylinders are heavier than other cylinders because they are packed with a porous filler material and acetone or dimethylformamide. Never use acetylene in excess of 15 psig pressure. Ensure adequate ventilation. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Only experienced and properly instructed persons should handle compressed gases/cryogenic liquids. Before using the product, determine its identity by reading the label. Know and

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understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Open valve slowly. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Close valve after each use and when empty. Replace outlet caps or plugs and container caps as soon as container is disconnected from equipment. Do not subject containers to abnormal mechanical shock. Never attempt to lift a cylinder by its valve protection cap or guard. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. Purge air from system before introducing gas. When returning cylinder install valve outlet cap or plug leak tight. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F). Prolonged periods of cold temperature below -30°C (-20°F) should be avoided. Ensure equipment is adequately earthed.

Conditions for safe storage, including any incompatibilities

Containers should be stored in a purpose build compound which should be well ventilated, preferably in the open air. Observe all regulations and local requirements regarding storage of containers. Stored containers should be periodically checked for general condition and leakage. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Smoking should be prohibited within storage areas or while handling product or containers. Display "No Smoking or Open Flames" signs in the storage areas. The amounts of flammable or toxic gases in storage should be kept to a minimum. Return empty containers in a timely manner.

Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations. Keep away from combustible material. All electrical equipment in the storage areas should be compatible with flammable materials stored. Containers containing flammable gases should be stored away from other combustible materials. Where necessary containers containing oxygen and oxidants should be separated from flammable gases by a fire resistant partition.

Specific end use(s)

Refer to section 1 or the extended SDS if applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Control parameters

If applicable, refer to the extended section of the SDS for further information on CSA.

Exposure controls

Engineering measures

Provide natural or explosion-proof ventilation that is adequate to ensure flammable gas does not reach its lower explosive limit.

Personal protective equipment

- | | |
|---|--|
| Respiratory protection | : High concentrations that can cause rapid suffocation are within the flammable range and should not be entered. |
| Hand protection | : Sturdy work gloves are recommended for handling cylinders.
The breakthrough time of the selected glove(s) must be greater than the intended use period. |
| Eye protection | : Safety glasses recommended when handling cylinders. |
| Skin and body protection | : Safety shoes are recommended when handling cylinders.
Wear as appropriate:
Flame retardant protective clothing. |
| Special instructions for protection and hygiene | : Ensure adequate ventilation, especially in confined areas. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- | | |
|--|---|
| Appearance | : Dissolved gas. Colorless gas |
| Odor | : Poor warning properties at low concentrations. Garlic-like. |
| Odor threshold | : No data available. |
| pH | : Not applicable. |
| Melting point/range | : -113 °F (-80.8 °C) |
| Boiling point/range | : -120 °F (-84.2 °C) |
| Flash point | : 0 °F (-18 °C) |
| Evaporation rate | : Not applicable. |
| Flammability (solid, gas) | : No data available. |
| Upper/lower explosion/flammability limit | : 83 %(V) / 2.4 %(V) |

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Vapor pressure : 638.14 psia (44.00 bar) at 68 °F (20 °C)

Water solubility : 1.185 g/l

Relative vapor density : 0.899 (air = 1)

Relative density : No data available.

Partition coefficient (n-octanol/water) : Not applicable.

Autoignition temperature : 325 °C

Decomposition temperature : No data available.

Viscosity : Not applicable.

Explosive properties : No data available.

Oxidizing properties : No data available.

Molecular Weight : 26.04 g/mol

Density : 0.0011 g/cm³ (0.069 lb/ft³) at 21 °C (70 °F)
Note: (as vapor)

Specific Volume : 0.9221 m³/kg (14.77 ft³/lb) at 21 °C (70 °F)

Upper flammability limit : 83 %(V)

Lower flammability limit : 2.4 %(V)

10. STABILITY AND REACTIVITY

Reactivity : Refer to possibility of hazardous reactions and/or incompatible materials sections

Chemical Stability : Stable under normal conditions.

Possibility of hazardous reactions : Unstable. Stable as shipped. Do not use at pressure above 15 psig.

Conditions to avoid : Cylinders should not be exposed to sudden shock or sources of heat. Heat, flames and sparks. May form explosive mixtures with air and oxidizing agents.

Incompatible materials : Under certain conditions, acetylene can react with copper, silver, and mercury to form acetylides, compounds which can act as ignition sources. Brasses containing less than 65% copper in the alloy and certain nickel alloys are suitable for acetylene service under normal conditions. Acetylene can react explosively when combined with oxygen and other oxidizers including all halogens and

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halogen compounds. The presence of moisture, certain acids, or alkaline materials tends to enhance the formation of copper acetylides.

Oxygen.

Oxidizing agents.

Hazardous decomposition products : No data available.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Likely routes of exposure

Effects on Eye : No data available.

Effects on Skin : No adverse effect.

Inhalation Effects : May cause anesthetic effects. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.

Ingestion Effects : Ingestion is not considered a potential route of exposure.

Symptoms : Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.

Acute toxicity

Acute Oral Toxicity : No data is available on the product itself.

Inhalation : No data is available on the product itself.

Acute Dermal Toxicity : No data is available on the product itself.

Skin corrosion/irritation : No data available.

Serious eye damage/eye irritation : No data available.

Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

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Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure) : No data available.

Aspiration hazard : No data available.

12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity : No data is available on the product itself.

Toxicity to other organisms : No data is available on the product itself.

Persistence and degradability

No data available.

Bioaccumulative potential

No data is available on the product itself.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

If applicable, refer to the extended section of the SDS for further information on CSA.

Other adverse effects

This product has no known eco-toxicological effects.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods : Contact supplier if guidance is required. Return unused product in original cylinder to supplier. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.

Contaminated packaging : Return cylinder to supplier.

14. TRANSPORT INFORMATION

ADR

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UN/ID No. : UN1001
Proper shipping name : ACETYLENE, DISSOLVED
Class or Division : 2
Tunnel Code : (B/D)
Label(s) : 2.1
ADR/RID Hazard ID no. : 239
Marine Pollutant : No

IATA

Transport Forbidden

IMDG

UN/ID No. : UN1001
Proper shipping name : ACETYLENE, DISSOLVED
Class or Division : 2.1
Label(s) : 2.1
Marine Pollutant : No

RID

UN/ID No. : UN1001
Proper shipping name : ACETYLENE, DISSOLVED
Class or Division : 2
Label(s) : 2.1
Marine Pollutant : No

Further Information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

WGK Identification Number: : Not water endangering.

Chemical Safety Assessment

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Refer to extended SDS for CSA information

16. OTHER INFORMATION

Ensure all national/local regulations are observed.

R-phrases - Components

R 5 Heating may cause an explosion.

R 6 Explosive with or without contact with air.

R12 Extremely flammable.

Hazard Statements:

EUH006 Explosive with or without contact with air.

H220 Extremely flammable gas.

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at
<http://www.airproducts.com/productstewardship/>

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

SAFETY DATA SHEET

Version 1.12

Revision Date 24.07.2010

MSDS Number 3000000000004

Print Date 11.09.2012

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product identifier :

Chemical formula : Ar

Synonyms : Argon, Argon gas, Gaseous Argon, GAR

Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : General Industrial

Restrictions on Use : No data available.

Details of the supplier of the safety data sheet : Air Products Plc
2 Millennium Gate
Westmere Drive
Crewe
Cheshire

Email Address – Technical Information : GASTECH@airproducts.com

Telephone : +44(0)8457 020202

Emergency telephone number (24h) : 1. Cylinder 0500 020202 / +44 870 190 6874
2. Bulk 0500 020202 / +44 2030 240 571
3. Medical 0500 020202 / +44 1270 218 050

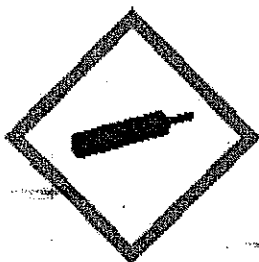
HAZARDS IDENTIFICATION

Classification according to Regulation 1272/2008 (CLP)

Gases under pressure - Compressed gas. H280: Contains gas under pressure; may explode if heated.

Label Elements according to Regulation 1272/2008 (CLP)

Hazard pictograms/symbols



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Print Date 11.09.2012

Signal Word: Warning

Hazard Statements:

H280: Contains gas under pressure; may explode if heated.

Precautionary Statements:

Storage : P403: Store in a well-ventilated place.

Classification (Directive)

Not a hazardous substance or preparation according to EC-directives
67/548/EEC or 1999/45/EC.
No EC labelling required.

Other hazards

High pressure gas.
Can cause rapid suffocation.
Self contained breathing apparatus (SCBA) may be required.

Environmental Effects

Not harmful.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture : Substance

Components	EINECS / ELINCS Number	CAS Number	Concentration (Volume)
Argon	231-147-0	7440-37-1	100 %

Components	Classification (Directive)	Classification (CLP)	REACH Reg. #
Argon		Press. Gas	

If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, or the registration date has not yet come due.
Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

4. FIRST AID MEASURES

Description of first aid measures

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- General advice : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Eye contact : Not applicable.
- Skin contact : Not applicable.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Inhalation : Remove to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. In case of shortness of breath, give oxygen.

Most important symptoms and effects, both acute and delayed

- Symptoms : Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.

Indication of any immediate medical attention and special treatment needed

No data available.

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media : All known extinguishing media can be used.
- Extinguishing media which must not be used for safety reasons. : No data available.
- Special hazards arising from the substance or mixture : Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Product is nonflammable and does not support combustion. Move away from container and cool with water from a protected position. Keep containers and surroundings cool with water spray.
- Advice for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.

Further information : No data available.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Monitor oxygen level. Ventilate the area.

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Version 1.12
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- Environmental precautions : Do not discharge into any place where its accumulation could be dangerous. Prevent further leakage or spillage if safe to do so.
- Methods and material for containment and cleaning up : Ventilate the area.
- Additional advice : If possible, stop flow of product. Increase ventilation to the release area and monitor oxygen level. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve and safely vent the pressure before attempting repairs.

7. HANDLING AND STORAGE

Precautions for safe handling

Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Only experienced and properly instructed persons should handle compressed gases/cryogenic liquids. Before using the product, determine its identity by reading the label. Know and understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Open valve slowly. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Close valve after each use and when empty. Replace outlet caps or plugs and container caps as soon as container is disconnected from equipment. Do not subject containers to abnormal mechanical shocks which may cause damage to their valve or safety devices. Never attempt to lift a cylinder by its valve protection cap or guard. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. When returning cylinder install valve outlet cap or plug leak tight. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F). Prolonged periods of cold temperature below -30°C (-20°F) should be avoided.

Conditions for safe storage, including any incompatibilities

Full containers should be stored so that oldest stock is used first. Containers should be stored in a purpose built compound which should be well ventilated, preferably in the open air. Stored containers should be periodically checked for general condition and leakage. Observe all regulations and local requirements regarding storage of containers. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly

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closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Return empty containers in a timely manner.

Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations. Keep away from combustible material.

Specific end use(s)

Refer to section 1 or the extended SDS if applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

If applicable, refer to the extended section of the SDS for further information on CSA.

Exposure controls

Engineering measures

Provide natural or mechanical ventilation to prevent oxygen deficient atmospheres below 19.5% oxygen.

Personal protective equipment

Respiratory protection : Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmosphere.
Air purifying respirators will not provide protection. Users of breathing apparatus must be trained.

Hand protection : Sturdy work gloves are recommended for handling cylinders.
The breakthrough time of the selected glove(s) must be greater than the intended use period.

Eye protection : Safety glasses recommended when handling cylinders.

Skin and body protection : Safety shoes are recommended when handling cylinders.

Special instructions for protection and hygiene : Ensure adequate ventilation, especially in confined areas.

Remarks : Simple asphyxiant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance : Compressed gas. Colorless gas

Odor : No odor warning properties.

Odor threshold : No data available.

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pH	: Not applicable.
Melting point/range	: -309 °F (-189.3 °C)
Boiling point/range	: -302 °F (-185.8 °C)
Flash point	: Not applicable.
Evaporation rate	: Not applicable.
Flammability (solid, gas)	: No data available.
Upper/lower explosion/flammability limit	: No data available.
Vapor pressure	: Not applicable.
Water solubility	: 0.061 g/l
Relative vapor density	: 1.379 (air = 1)
Relative density	: No data available.
Partition coefficient (n-octanol/water)	: Not applicable.
Autoignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity	: Not applicable.
Explosive properties	: No data available.
Oxidizing properties	: No data available.
Molecular Weight	: 39.95 g/mol
Density	: 0.0017 g/cm3 (0.106 lb/ft3) at 21 °C (70 °F) Note: (as vapor)
Specific Volume	: 0.6043 m3/kg (9.68 ft3/lb) at 21 °C (70 °F)

10. STABILITY AND REACTIVITY

Reactivity	: Refer to possibility of hazardous reactions and/or incompatible materials sections
Chemical Stability	: Stable under normal conditions.

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Possibility of hazardous reactions : No data available.

Conditions to avoid : No data available.

Incompatible materials : No data available.

Hazardous decomposition products : None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Likely routes of exposure

Effects on Eye : No adverse effect.

Effects on Skin : No adverse effect.

Inhalation Effects : In high concentrations may cause asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.

Ingestion Effects : Ingestion is not considered a potential route of exposure.

Symptoms : Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.

Acute toxicity

Acute Oral Toxicity : No data is available on the product itself.

Inhalation : No data is available on the product itself.

Acute Dermal Toxicity : No data is available on the product itself.

Skin corrosion/irritation : No data available.

Serious eye damage/eye irritation : No data available.

Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

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Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure) : No data available.

Aspiration hazard : No data available.

12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity : No data is available on the product itself.

Toxicity to other organisms : No data is available on the product itself.

Persistence and degradability

No data available.

Bioaccumulative potential

No data is available on the product itself.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

If applicable, refer to the extended section of the SDS for further information on CSA.

Other adverse effects

This product has no known eco-toxicological effects.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods : Contact supplier if guidance is required. Return unused product in original cylinder to supplier.

Contaminated packaging : Return cylinder to supplier.

14. TRANSPORT INFORMATION

ADR

UN/ID No. : UN1006

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Proper shipping name : ARGON, COMPRESSED
Class or Division : 2
Tunnel Code : (E)
Label(s) : 2.2
ADR/RID Hazard ID no. : 20

IATA

UN/ID No. : UN1006
Proper shipping name : Argon, compressed
Class or Division : 2.2
Label(s) : 2.2

IMDG

UN/ID No. : UN1006
Proper shipping name : ARGON, COMPRESSED
Class or Division : 2.2
Label(s) : 2.2

RID

UN/ID No. : UN1006
Proper shipping name : ARGON, COMPRESSED
Class or Division : 2
Label(s) : 2.2

Further Information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

WGK Identification Number: : Not water endangering.

Chemical Safety Assessment

Refer to extended SDS for CSA information

This product is either exempt from REACH, does not meet the minimum volume threshold for a CSA, or the CSA

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has not yet been completed.

16. OTHER INFORMATION

Ensure all national/local regulations are observed.

Hazard Statements:

H280 Contains gas under pressure; may explode if heated.

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at
<http://www.airproducts.com/productstewardship/>

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product identifier :

Chemical formula : O₂

Synonyms : Oxygen, Oxygen gas, Gaseous Oxygen, GOX

Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : General Industrial

Restrictions on Use : No data available.

Details of the supplier of the safety data sheet : Air Products Plc
2 Millennium Gate
Westmere Drive
Crewe
Cheshire

Email Address – Technical Information : GASTECH@airproducts.com

Telephone : +44(0)8457 020202

Emergency telephone number (24h) : 1. Cylinder 0500 020202 / +44 870 190 6874
2. Bulk 0500 020202 / +44 2030 240 571
3. Medical 0500 020202 / +44 1270 218 050

2. HAZARDS IDENTIFICATION

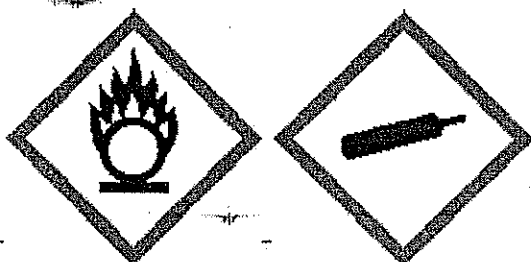
Classification according to Regulation 1272/2008 (CLP)

Oxidizing gases - Category 1 H270: May cause or intensify fire; oxidiser.

Gases under pressure - Compressed gas. H280: Contains gas under pressure; may explode if heated.

Label Elements according to Regulation 1272/2008 (CLP)

Hazard pictograms/symbols



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Signal Word: Danger

Hazard Statements:

H270: May cause or intensify fire; oxidiser.
H280: Contains gas under pressure; may explode if heated.

Precautionary Statements:

Prevention : P220: Keep away from clothing and other combustible materials.
P244: Keep valves and fittings free from grease and oil.
Response : P370+P376 : In case of fire: Stop leak if safe to do so.
Storage : P403: Store in a well-ventilated place.

Classification (Directive)

Oxidizing

R 8 Contact with combustible material may cause fire.

Other hazards

High pressure, oxidizing gas.
Vigorously accelerates combustion.
Keep oil, grease, and combustibles away.
May react violently with combustible materials.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture : Substance

Components	EINECS / ELINCS Number	CAS Number	Concentration (Volume)
Oxygen	231-956-9	7782-44-7	100 %

Components	Classification (Directive)	Classification (CLP)	REACH Reg. #
Oxygen	O R 8	Ox. Gas 1 Press. Gas	

If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, or the registration date has not yet come due.
Refer to section 16 for full text of each relevant R-phrases and H-phrases.

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Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

4. FIRST AID MEASURES

Description of first aid measures

- | | |
|----------------|--|
| General advice | : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. |
| Eye contact | : Seek medical advice. |
| Skin contact | : Seek medical advice. |
| Ingestion | : Ingestion is not considered a potential route of exposure. |
| Inhalation | : Consult a physician after significant exposure. Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. |

Most important symptoms and effects, both acute and delayed

- | | |
|----------|----------------------|
| Symptoms | : No data available. |
|----------|----------------------|

Indication of any immediate medical attention and special treatment needed

No data available.

5. FIRE-FIGHTING MEASURES

Extinguishing media

- | | |
|--|--|
| Suitable extinguishing media | : All known extinguishing media can be used. |
| Extinguishing media which must not be used for safety reasons. | : No data available. |
| Special hazards arising from the substance or mixture | : Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Oxidant. Strongly supports combustion. May react violently with combustible materials. Some materials which are noncombustible in air may burn in the presence of an oxidizer. Move away from container and cool with water from a protected position. Keep adjacent cylinders cool by spraying with large amounts of water until the fire burns itself out. If possible, stop flow of product. |
| Advice for fire-fighters | : Wear self contained breathing apparatus for fire fighting if necessary. |

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Further information : Some materials that are noncombustible in air will burn in the presence of an oxygen enriched atmosphere (greater than 23.5%). Fire resistant clothing may burn and offer no protection in oxygen rich atmospheres.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Clothing exposed to high concentrations may retain oxygen 30 minutes or longer and become a potential fire hazard. Stay away from ignition sources. Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ventilate the area.

Environmental precautions : Do not discharge into any place where its accumulation could be dangerous. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up : Ventilate the area.

Additional advice : If possible, stop flow of product. Increase ventilation to the release area and monitor concentrations. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs.

7. HANDLING AND STORAGE

Precautions for safe handling

All gauges, valves, regulators, piping and equipment to be used in oxygen service must be cleaned for oxygen service. Oxygen is not to be used as a substitute for compressed air. Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire. Only experienced and properly instructed persons should handle compressed gases/cryogenic liquids. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Before using the product, determine its identity by reading the label. Know and understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another.

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Always use backflow protective device in piping. When returning cylinder install valve outlet cap or plug leak tight. Never permit oil, grease, or other readily combustible substances to come into contact with valves or containers containing oxygen or other oxidants. Do not use rapidly opening valves (e.g. ball valves). Open valve slowly to avoid pressure shock. Never pressurize the entire system at once. Use only with equipment cleaned for oxygen service and rated for cylinder pressure. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F). Prolonged periods of cold temperature below -30°C (-20°F) should be avoided.

Conditions for safe storage, including any incompatibilities

Containers should be stored in a purpose build compound which should be well ventilated, preferably in the open air. Full containers should be stored so that oldest stock is used first. Stored containers should be periodically checked for general condition and leakage. Observe all regulations and local requirements regarding storage of containers. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Display "No Smoking or Open Flames" signs in the storage areas. Return empty containers in a timely manner.

Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations.

Specific end use(s)*

Refer to section 1 or the extended SDS if applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

If applicable, refer to the extended section of the SDS for further information on CSA.

Exposure controls

Engineering measures

Ensure adequate ventilation.

Personal protective equipment

- | | |
|--------------------------|--|
| Respiratory protection | : Users of breathing apparatus must be trained. |
| Hand protection | : Sturdy work gloves are recommended for handling cylinders.
The breakthrough time of the selected glove(s) must be greater than the intended use period. |
| Eye protection | : Safety glasses recommended when handling cylinders. |
| Skin and body protection | : Safety shoes are recommended when handling cylinders. |

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Special instructions for protection and hygiene : Ensure adequate ventilation, especially in confined areas. Gloves must be clean and free of oil and grease.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance : Compressed gas. Colorless gas

Odor : No odor warning properties.

Odor threshold : No data available.

pH : Not applicable.

Melting point/range : -362 °F (-219 °C)

Boiling point/range : -297 °F (-183 °C)

Flash point : Not applicable.

Evaporation rate : Not applicable.

Flammability (solid, gas) : No data available.

Upper/lower explosion/flammability limit : No data available.

Vapor pressure : Not applicable.

Water solubility : 0.039 g/l

Relative vapor density : 1.1 (air = 1)

Relative density : 1.1 (water = 1)

Partition coefficient (n-octanol/water) : Not applicable.

Autoignition temperature : No data available.

Decomposition temperature : No data available.

Viscosity : Not applicable.

Explosive properties : No data available.

Oxidizing properties : Ci =1

Molecular Weight : 32 g/mol

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Density : 0.0013 g/cm³ (0.081 lb/ft³) at 21 °C (70 °F)
Note: (as vapor)

Specific Volume : 0.7540 m³/kg (12.08 ft³/lb) at 21 °C (70 °F)

10. STABILITY AND REACTIVITY

Reactivity : Refer to possibility of hazardous reactions and/or incompatible materials sections

Chemical Stability : Stable under normal conditions.

Possibility of hazardous reactions : No data available.

Conditions to avoid : No data available.

Incompatible materials : Flammable materials.
Organic materials.
Avoid oil, grease and all other combustible materials.

Hazardous decomposition products : No data available.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Likely routes of exposure

Effects on Eye : No adverse effect.

Effects on Skin : No adverse effect.

Inhalation Effects : Breathing 75% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects.

Ingestion Effects : Ingestion is not considered a potential route of exposure.

Symptoms : No data available.

Acute toxicity

Acute Oral Toxicity : No data is available on the product itself.

Inhalation : No data is available on the product itself.

Acute Dermal Toxicity : No data is available on the product itself.

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Skin corrosion/irritation : No data available.

Serious eye damage/eye irritation : No data available.

Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure) : Premature infants exposed to high oxygen concentrations may suffer delayed retinal damage that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hr). At two or more atmospheres central nervous system (CNS) toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours and at six atmospheres in only a few minutes.

Aspiration hazard : No data available.

12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity : No data is available on the product itself.

Toxicity to other organisms : No data is available on the product itself.

Persistence and degradability

No data available.

Bioaccumulative potential

No data is available on the product itself.

Mobility in soil

No data available.

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Results of PBT and vPvB assessment

If applicable, refer to the extended section of the SDS for further information on CSA.

Other adverse effects

No ecological damage caused by this product.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods : Return unused product in original cylinder to supplier. Contact supplier if guidance is required.

Contaminated packaging : Return cylinder to supplier.

14. TRANSPORT INFORMATION

ADR

UN/ID No. : UN1072
Proper shipping name : OXYGEN, COMPRESSED
Class or Division : 2
Label(s) : 2.2 (5.1)
ADR/RID Hazard ID no. : 25

IATA

UN/ID No. : UN1072
Proper shipping name : Oxygen, compressed
Class or Division : 2.2
Label(s) : 2.2 (5.1)

IMDG

UN/ID No. : UN1072
Proper shipping name : OXYGEN, COMPRESSED
Class or Division : 2.2
Label(s) : 2.2 (5.1)

RID

UN/ID No. : UN1072
Proper shipping name : OXYGEN, COMPRESSED
Class or Division : 2
Label(s) : 2.2 (5.1)

Further Information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

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15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.
Japan	ENCS	Included on Inventory.

WGK Identification Number: : Not water endangering.

Chemical Safety Assessment

Refer to extended SDS for CSA information

This product is either exempt from REACH, does not meet the minimum volume threshold for a CSA, or the CSA has not yet been completed.

16. OTHER INFORMATION

Ensure all national/local regulations are observed.

R-phrases - Components

R 8 Contact with combustible material may cause fire.

Hazard Statements:

H270 May cause or intensify fire; oxidiser.

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at
<http://www.airproducts.com/productstewardship/>

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

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Glass Tech Recycling Ltd

Daily Check List

All Fuel Tanks to be Filled at End of Day

Month _____

Machinery _____

Are the following in good working order, please Y for yes or N for no:

	Oil	Water/A nti- freeze	All filters	Radiators	Bearings/ grease	Exhaust	Dust pollution	Tyres/ tracks	Fuel	Rubbers	Belts	Meshes	Rollers	Initials
1														
2														
3														
4														
5														
6														
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28														
29														
30														
31														

Action Required

--



Glass Tech
Recycling Ltd

CRUSHER OPERATING TRAINING

- 1 Procedures
- 2 Daily Checks
- 3 Dust Monitoring
- 4 Weather Conditions
- 5 Safe Working Practices
- 6 Site Awareness
- 7 Reporting Procedures

I J. Bidder Received Crusher Operating Training
Undertaken By Mr Ceri Litchfield Of Glass Tech Recycling Ltd,
And Have Completed All Of The Above Modules

Signed

Date

21.2.14



Glass Tech
Recycling Ltd

CRUSHER OPERATING TRAINING

- 1 Procedures
- 2 Daily Checks
- 3 Dust Monitoring
- 4 Weather Conditions
- 5 Safe Working Practices
- 6 Site Awareness
- 7 Reporting Procedures

I R. ZARCA Received Crusher Operating Training
Undertaken By Mr Ceri Litchfield Of Glass Tech Recycling Ltd,
And Have Completed All Of The Above Modules

Signed Eddy Date 13/9/13



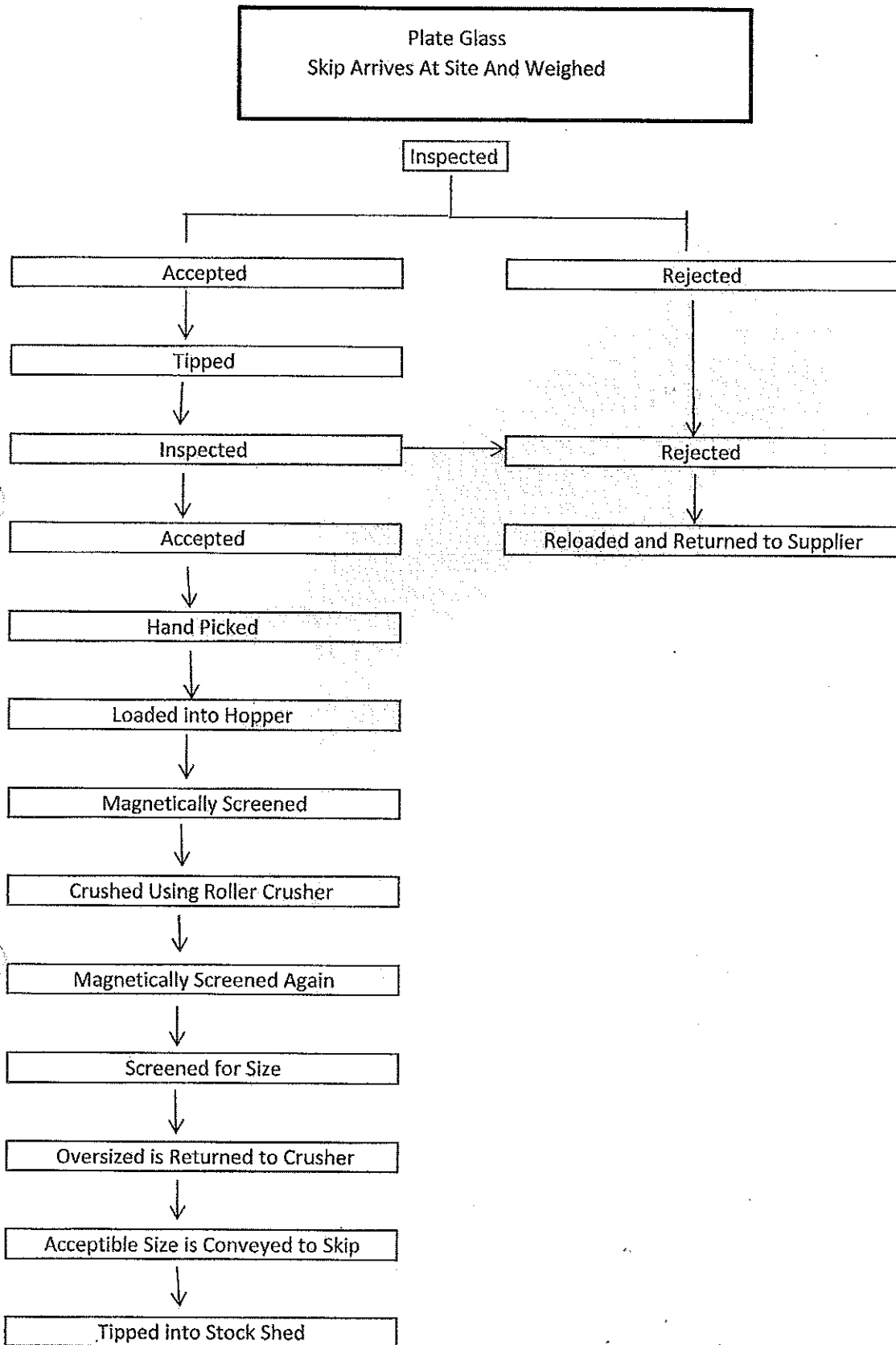
**Glass Tech
Recycling Ltd**

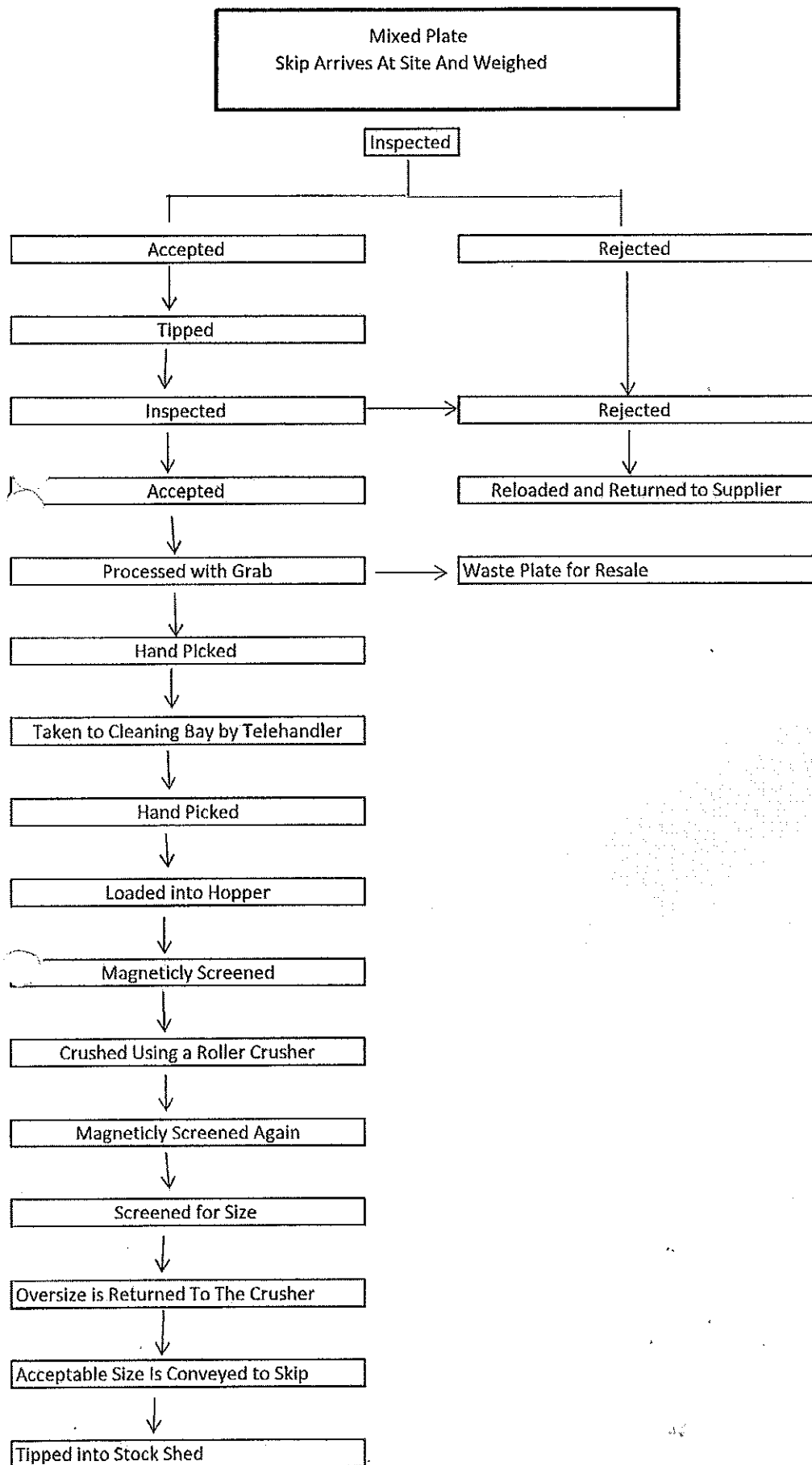
CRUSHER OPERATING TRAINING

- 1 Procedures
- 2 Daily Checks
- 3 Dust Monitoring
- 4 Weather Conditions
- 5 Safe Working Practices
- 6 Site Awareness
- 7 Reporting Procedures

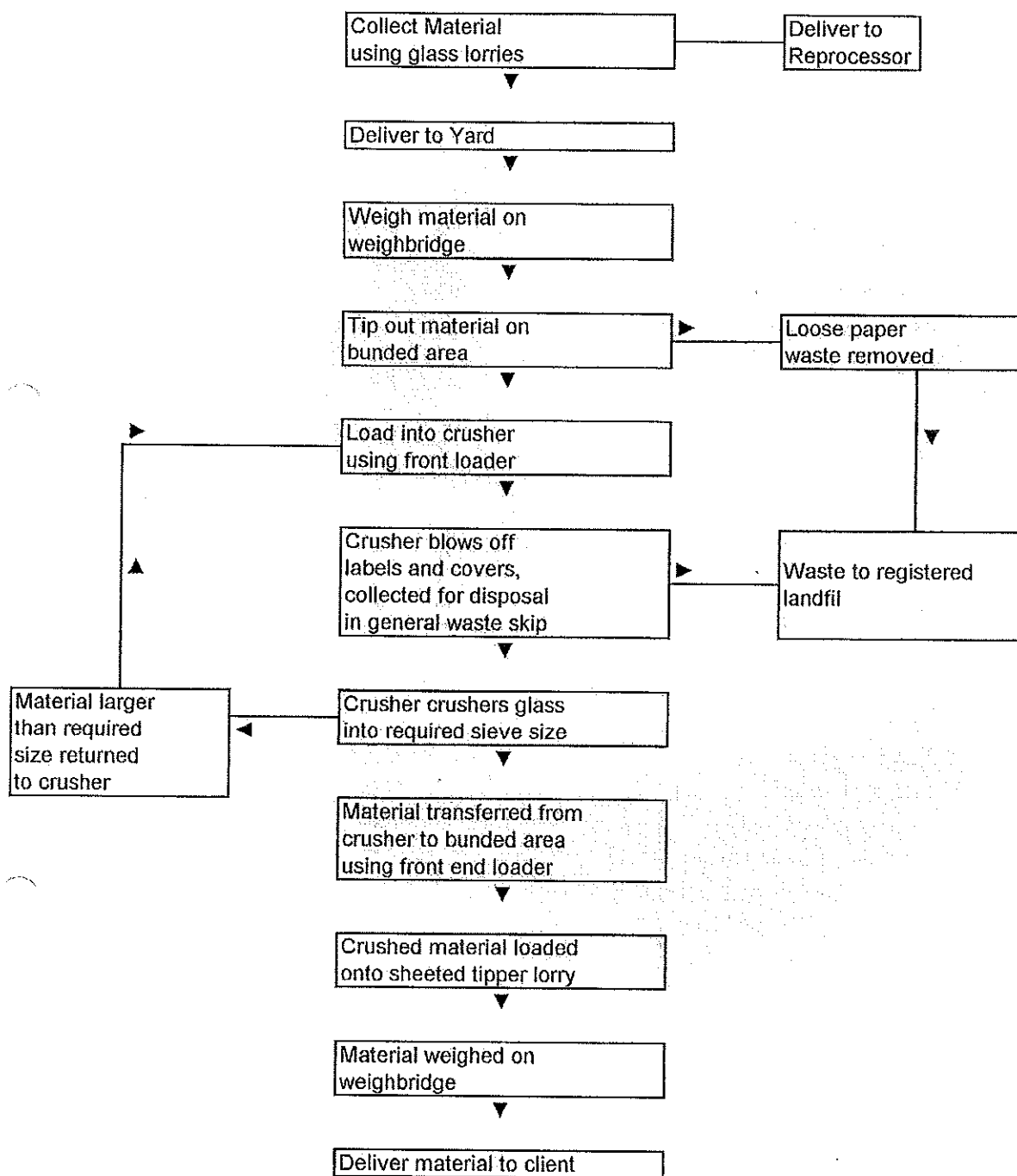
I D. EVANS Received Crusher Operating Training
Undertaken By Mr Ceri Litchfield Of Glass Tech Recycling Ltd,
And Have Completed All Of The Above Modules

Signed D. EVANS Date 13/9/13





Glass Tech Recycling Ltd Flow Chart



Sampling & Inspection plan

Glass Tech Recycling Ltd tries at all times to ensure that we eliminate at source contaminants from packaging glass brought onto the site. Processes and procedures are tested, methodology adapted and staff training undertaken to improve, progress and modify operations. The modifications are set out below for supplies that have been agreed and costed, the sampling and inspection of the material received on site will take place at regular intervals after the initial testing has been undertaken.

1. We give written notification to our suppliers to ensure they are aware of the appropriate product to be placed in the appropriate container we supply by way of Waste Transfer Notes or contracts.
2. As human error does occur at source and persons other than the staff of respective sites can place items in the containers we supply, the drivers perform visual checks on the contents of the containers before loading onto vehicles. If the container is found to have waste other than glass packaging, the container is left at the site, a telephone call from the office is made, backed up by a letter informing the supplier why the container was not removed from site and to ensure only UK glass packaging waste is placed in the containers. If this happens more than once with the same supplier, an invoice is issued for the transport costs incurred by Glass Tech Recycling Ltd for the wasted journey.
3. After the vehicle returns to the yard and is weighed on the weigh bridge, the load is tipped and inspected by the yard foreman. If the load is found to include an unacceptable level of material other than UK glass packaging waste, photographic evidence is taken and sent to the supplier. The supplier is given the choice of the material being re-loaded onto a vehicle and returned to site incurring a haulage cost, or the added cost of sending the load to landfill.
4. As we now have a rudimentary lab and testing process to calculate the level of waste in a load consisting of glass fines, a sample of the load before processing is taken and weighed. All contaminants are removed from the sample and weighed, the remaining glass is weighed and the percentage of waste to glass calculated. If the contaminate level exceeds 4%, the %age is deducted from the total tonnage on which an ePRN can be claimed. This process will be performed for each supplier of glass fines and an average % taken to apply to that particular supplier, giving a more accurate individual weight that is eligible for issue of an ePRN.
5. The tested samples are bagged, labelled with test date and supplier, retained and available for inspection and monitoring.
6. This process will be routinely applied to ensure accuracy of contaminate data.
7. Previous checks show contaminate levels are within the threshold of 4% for whole bottles.

A new supply enquiry procedure now dictates we receive a sample of the material for testing. The level of contaminants will determine the acceptance and or gate fee and will take into account any possible landfill charges.

SERVICING SAFETY PROCEDURES

EXTEC SCREEN & CRUSHER

- 1. STOP ENGINE**
- 2. REMOVE KEY**
- 3. TURN ISOLATION SWITCH**
- 4. SECURE DOOR WITH PADLOCK**
- 5. LEAVE KEY WITH SITE FOREMAN OR
WEIGHBRIDGE OPERATOR**

**CRUSHER PROCEDURE SAME AS ABOVE MISSING
OUT STEP 3**

Recording of Customers Deliveries and Outputs

Customers are given a Form of Agreement and Duty of Care: controlled Waste Transfer Note, which they sign, keeping one copy and we retain the other.

Drivers are given a daily route listing which detail the locations, number and size of bins. These are filled in by the driver to show how much glass was collected from each location and if bins were not collected due to contamination.

The drivers make a visual check of the load they are collecting and if contamination is visible will refuse to transport the load and the supplier incurs extra costs.

The drivers, on return to the yard, weigh the material in on the weighbridge. The load is then tipped and inspected. We have employed a yard foreman that inspects every load that is tipped along with the driver and if the load is contaminated above and beyond acceptable levels, pictures are taken, the supplier is contacted and photographic evidence is provided. The vehicle is re-loaded, returns to the source and the supplier incurs additional charges for haulage.

The weighbridge tickets are printed in the admin office and the information regarding the loads, customers, weights are transferred to our excel record Log. If a load has been returned as contaminated, the relevant weighbridge ticket is marked as a void and not entered onto our record log.

Currently we use a Glass out spreadsheet to account for all glass that has been sold and we use an excel spreadsheet for this.

The bottle glass will be turned into between 12mm and 3mm down depending on the customers requirements. The movement of this from the yard will involve vehicles using the weighbridge. The weighbridge ticket number for the individual will be documented on the invoice that is sent to the customer.

The care and quality control of recording that will take place from to ensure accuracy of reporting to both the NPWD and the shareholders will be:

- A weekly check of the accuracy of information entered onto the spreadsheets, cross referenced with the weighbridge tickets, transport movement sheets etc, e.g. tonnage, supplier / customer, on two separate occasions by different personnel. The first check will be performed by the member of staff that processes the data at point of entry, the second weekly check will be conducted by a different member of staff and a report written giving a summary of the information. This report will be used to keep the shareholders of the Company informed of the PRN process, procedures and results, a meeting will be held on a weekly basis, minuted and chaired by a Director.
- On a monthly basis a Director will audit and agree the data entered, cross referencing with the same as above as well as financial documents received, to ensure the correct supplier has been credited with the supply and relevant paperwork received to qualify the tonnage, therefore having 3 checks before submission to the NPWD.
- Drivers and yard personnel have been given basic training on ePRN regulations, processes and procedures, ensuring knowledge of the protocols to be followed.
- Two members of staff will be present at the time of submission onto NPWD, ensuring no errors of transposition.

Customer	Material	Use
Knauf	Plate Glass	Insulation
Local Authorities	12mm Sand Replacement	Pipe Bedding, backfill, paths & roads
Construction Industry	5mm & less Sand Replacement	Paths, patios, backfill etc

Suppliers of Bottled Glass with Current Contracts or Services

Able Waste Management Ltd, Hallen Ind Est, Severn Road, Hallen, Bristol BS10 7SE

Allstone Trading Co Ltd, Allstone House, Myers Road, Off Horton Road, Gloucester GL1 3QD

All Waste Services Ltd, The Old Sawmills, Station Road, Llangadog, SA19 9LS

Alutrade Ltd, Langley Forge House, Tat Bank Road, Oldbury, B69 4NH

Amber Services, The Recycling Centre, Dyffrun Business Park, Ystrad Mynach CF82 7RJ

Blaenau Gwent CBC, Municipal Offices, Civic Centre, Ebbw Vale, NP23 6XB

Bowen Contracting Ltd, Tydu Farm, Nelson, Treharris, CF46 6PH

Bridgend CBC, Waterton Lane, Waterton, Bridgend CF31 3YB

Caerphilly Council, Council Offices, Pontllanfraith, Blackwood, NP12 2YW

Cardiff County Council, County Hall, Atlantic Wharf, Cardiff, CF10 4UW

Ceridigion CC, Canolfan Rheidol, Rhodfa Padarn, Llanbadarn Fawr, Aberystwyth SY23 3UE

Cwm Environmental, MRF Unit, Cillefwr Ind Est, Alltynchap Road, Johnstown Carms, SA31 3RA

D I Evans, Gwrthwynt, Beulah, Castellnewydd, Ceredigion, SA38 9QE

Monmouthshire Community Recycling, May Gurney, Argyle Way, Stevenage, Hertfordshire, SG1 2AD

Newport City Council, Civic Centre, Newport

Pure Recycling Ltd, Chawston Lane, Chawston, Bedfordshire, MK44 3BH

Rainbow Recycling, Unit 8, Dharpmaster House, 117 Ystrad road, Fforestfach, Swansea, SA5 4JB

The Recycling Company, The Old Bypass Works, Docks Road, Port Talbot, SA13 1RS

Torfaen Cleanstream Recycling, Unit 8, Tycoch Dist. Centre, Tycoch Way, Cwmbran, NP44 7HF

Waste Cycle Ltd, Enviro Building, Private Road 4, Colwick Ind Est, Nottingham, NG4 2JT

Worm Tech Ltd, 158 Manor Way, Whitchurch, Cardiff, CF14 1RN

West Coast Recycling, Penfoel Workshops, Cross Inn, Llandysul, SA44 6NR

REPORT 4

BESPOKE ENVIRONMENTAL PERMIT APPLICATION

SUMMARY ENVIRONMENTAL MANAGEMENT SYSTEM

**Kings Dock
Swansea**

**Appendix 2
Forms to be
Incorporated into
Full EMS**

Accident and Incident Record

Date and time of the incident	
What happened, what was it about?	
Was anyone else aware of this – other witnesses? If so who?	
What caused it?	
What action did you take to fix the problem? Were external agencies involved?	
What have you done to make sure that it does not happen again?	
Was there any significant pollution – for example: oil entering a surface water drain. If so what?	
If there was then you must notify the Environment Agency on 0800 807060 ASAP. Have you done so?	Yes/No/not applicable Time: Date: E.A Incident number:
Please print your name and sign	

Green Crusher

[illegible]

Register of Environmental Aspects

[illegible]

Register of Significant Environmental Aspects

Refer to procedure for full guidance

Item Ref	Describe the environmental aspects giving rise to potential significant effects	Is impact controlled by equipment?	Is equipment included on maintenance checklist?	Is impact controlled by a procedure? If so, what is the reference?



Glass Tech
Recycling Ltd

Risk Assessment

Daily

Glass Tech Recycling Ltd
unit 10, Tank Farm Road
Llandarcy, Skewen, SA10 6EN

T: 01792 321020/F: 01792 321021

Potential Hazard	Who is at risk?	Existing Control Measures	Risk Rating	Preventative Measures	Responsibilities
VEHICLE Movement on Site	ALL	Drivers must Stick to Speed Limit	Medium	All drivers briefed daily on Speed P.P.E., Haz Lights on	All drivers
Operators	ALL	Daily Briefings on All Plant Machinery	Low	Daily Tool Box Talks	All operators
Visitors	ALL	All Visitors must Report to Reception	Low/Medium	All operators must be informed Visitors on Site	All
Staff	ALL	Correct P.P.E	Low	Daily Briefings	ALL
NOISE	ALL	EAR DEFENSE HIGH FENCING RESTRICTED OPENING	Low	EAR DEFENSE	ACC.
Customer Name	Customer Address		Customer Signature		On Behalf of Glass Tech Recycling Ltd



Glass Tech
Recycling Ltd

Risk Assessment

Environmental

Glass Tech Recycling Ltd
unit 10, Tank Farm Road
Llandarcy, Skewen, SA10 6EN

T: 01792 321020/F: 01792 321021

Potential Hazard	Who is at risk?	Existing Control Measures	Risk Rating	Preventative Measures	Responsibilities
Fuel Spillage	All on Site	SPILL kits Induction to Drivers	Low	Weekly Briefing To All Staff	All Involved with Plant
Oils + Lubricants	All on Site	SPILL kits Weekly Briefings Storage Container	Low	Weekly Briefing To All Staff	All Drivers + Operators
Gas Cylinder Leak OXY ACETYLENE ARGON	Workshop Staff	Correct Storage TRNG Weekly Checks	Low	Daily Checks	Workshop Staff
Leachate	All on Site	Drains to be kept Clear at All Times leading to Interceptor	Medium	Interceptor checked on Daily Basis	All ops
Paint	All on Site	Kept in Storage Shed	Low	Kept in Storage Shed	Workshop
Customer Name	Customer Address		Customer Signature		On Behalf of Glass Tech Recycling Ltd

Glass Tech Recycling Limited

Registered Office: Unit 10 Tank Farm Road, Llandarcy, Neath SA10 6EN
Tel: 01792 321020 Fax: 01792 321021

MATERIAL SUPPLY AND PROCUREMENT AGREEMENT (MSPA)

AGREEMENT No

0092

Supplier Name & Address for Invoicing Postcode Contact Name Telephone No Position Start Date	Premises Name & Address of Premises/Depots for Collection & Delivery of Skips Postcode Contact Name Tel No Position Notes
Material Description of Material(s) 	Material Price (MP) Applicable / Not Applicable (delete as appropriate) £ per tonne of Material collected, subject to increase under Clause 7
Skip Delivery/Collection Price (SDCP) £ per skip delivered and collected by the Material Receiver or it's nominated sub-contractor firm	Agreed Delivery/Collection Schedule (SAC) The Material Receiver will endeavour to deliver and collect skips or other agreed containers to and from the Supplier on occasions per calendar month
Skip/Container Size & Description 	Notes

Please read the Conditions overleaf, which form part of this Agreement of Terms & Conditions:
This is a Deed signed on behalf of the following parties to this Agreement and its Terms and Conditions

I have read and understood this legal Agreement and its Terms & Conditions.
Signed on behalf of the Supplier by

Duly Authorised
Person's Name:

Duly Authorised
Signature:

Date:

I have read and understood this legal Agreement and its Terms & Conditions.
Signed on behalf of Glass Tech Recycling Ltd by

Duly Authorised
Person's Name:

Duly Authorised
Signature:

Date:



**Glass
Tech
Recycling Ltd**

SECURE TICKET

0758

DESCRIPTION OF GOODS

NOTES

VEHICLE REG No

HAULIER

CUSTOMER / SUPPLIER

DRIVER'S SIGNATURE

WEIGHMAN'S SIGNATURE

Glass Tech Recycling Limited
Unit 10 Tank Farm Road, Llandarcy, Skewen SA10 6EN
Tel: 01792 321020 Fax: 01792 321021
Company Reg No: 07479819 • VAT Reg No: 104 7980 12



Glass Tech Recycling Ltd

Unit 10 Tank Farm Road,
Llandarcy, Skewen SA10 6EN
Tel: 01792 321020 • Fax: 01792 321021
info@glasstechrecycling.co.uk
www.glasstechrecycling.co.uk

DUTY OF CARE: CONTROLLED WASTE TRANSFER NOTE

No 4001

A

Description of Waste

1. Please describe the waste being transferred:
EWC Codes: Plate Glass (20-01-02) ☐ Glass Bottles / Jars (15-01-07) ☐
2. Skip Size: 9 yds ☐ 35 yds ☐ Bulker ☐ Other:

B

Current Holder of the Waste (Transferor)

1. Full Name (BLOCK CAPITALS):
2. Company Name & Address:
3. Which of the following are you? (Please tick one or more as appropriate)
Producer of Waste ☐ Holder of Waste Disposal or Waste Management Licence ☐ { Licence No.
Importer of Waste ☐ Exempt from requirement to hold Waste Disposal or Waste Management Licence ☐ Issued by:
→ If exempt, why?

C

Person collecting the Waste (Transferee)

1. Driver's Name (BLOCK CAPITALS):
2. Company Name & Address: Glass Tech Recycling Ltd, Unit 10 Tank Farm Road, Llandarcy SA10 6EN
Environmental Permit No: EPR/YP3795VF/A001 Vehicle Operator No: OG1104964 Registered Waste Carrier Licence No: CB/XE5100FE
Issued by: Environment Agency Wales

D

Quality of Load

Accepted ☐ Rejected ☐
Reason:

E

Collection Note

1. Registration No of Vehicle:
2. Collection Address, see Section B, or if different:
3. Date of Transfer: Multiple consignments (give 'between' dates):
4. I can confirm that we will comply with the Waste Hierarchy ...
Signed (Transferor) Signed (Transferee)
Full Name Full Name
(in block caps) (in block caps)
Representing Representing Glass Tech Recycling Ltd

Glass Tech Recycling Ltd

NON-COMPLIANCE CORRECTIVE/PREVENTIVE ACTION REPORT

No:

Tick (✱) box as appropriate

Audit:	Complaint:	Material/Supplier:	Work method:	Other:
Non-conformance/compliance reported:			Date:	
Investigation Report:				
Made By:			Date:	
Corrective Action:				
Preventive Action (if applicable):				
Results of Preventive Action:				
Completed Action Undertaken By:			Date:	
Quality Representative's Signature:			Date:	

KJ/Issue 01/July 2011/D004



Glass Tech
Recycling Ltd

Glass Bottles & Jars

Specification Sheet

Unit 10, Tank Farm Road
Llandarey, Neath
West Glamorgan
SA10 6EN

t: 01792 321 020
f: 01792 321 021
e: info@glasstechrecycling.co.uk
glasstechrecycling.co.uk

Glass Tech Recycling Ltd prides itself on converting otherwise waste glass bottles and jars into a quality sand replacement aggregate. In order to meet the quality standards demanded by the market, it is essential the right types of **EMPTY** glass bottles and jars are collected for recycling, and that contamination levels are kept to a minimum.

Detailed below are guidelines to help maximise your financial return through sorting the bottles and jars.

Acceptable Glass Bottles & Jars

Clear Glass	Empty wine, beer and soft drinks bottles, food jars and other glass containers.
Green Glass	Empty wine, beer and soft drinks bottles, food jars and other glass containers.
Brown Glass	Empty wine, beer and soft drinks bottles, food jars and other glass containers.
Mixed Coloured Glass	Empty wine, beer and soft drinks bottles, food jars and other glass containers.

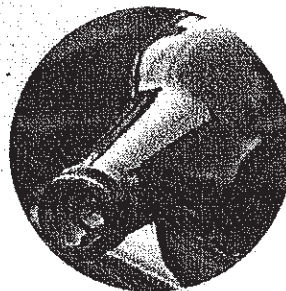
Please **DO NOT** return the following types of bottles, jars and containers as they are.

Unsuitable for recycling on our site

Plastic	Milk, soft drinks, sauce etc.
Ceramics	Plates, dishes, Pyrex, jugs, kitchen ware etc.
Glass	Full glass bottles, jars and other containers.

Contamination

In the event of skips being contaminated with unacceptable materials, a contamination report will be issued and the waste sent to landfill. The supplier will be invoiced for the cost of land filling based on the rates prevailing at the time of disposal.



Using yesterday's waste for tomorrow's future



**Glass Tech
Recycling Ltd**

Unit 10, Tank Farm Road
Llandarcy, Neath
West Glamorgan
SA10 6EN

t: 01792 321 020
f: 01792 321 021
e: info@glasstechrecycling.co.uk
glasstechrecycling.co.uk

Sand Replacement Continued

Storage

Store undercover in a dry, well ventilated area at ambient temperature.

Transport Classification

Non hazardous material in accordance with CDG UK IMDG ICAO/IATA.
No special precautions required.

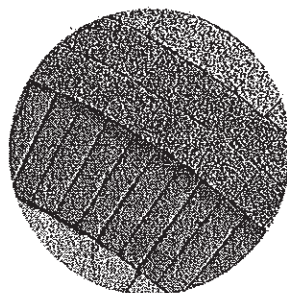
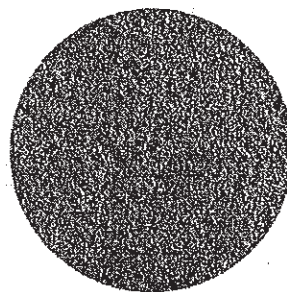
Material Specification

Mass of Initial Test Portion (g):	7979.0
Mass of Test Portion (g):	1359.0
Mass Retained 63mm Sieve (g):	0.0
Mass Passing 4mm Sieve (g):	6620.0
Mass of Reduced Non Floating (g):	1005.3
Drying Temperature (°C):	105.0

Proportion of Concrete (%): Rc	0.1
Proportion of Unbound Aggregate (%): Ru	0.0
Proportion of Clay Masonry (%): Rb	0.0
Proportion of Bituminous Material (%): Ra	0.0
Proportion of Glass (%): Rg	100
Proportion of Other Material (%): X	0.0
Floating Constituent (cm³/kg): FL	0.0

Certified that the Classification Test for the Constituents of Coarse Recycled Aggregate was determined in accordance with BS EN 933-11:2009.

These are the results of a 'typical' sample performed by ESG Laboratory.
Test report ref: UXB0184316/509/S1. 13/04/2012.



Using yesterday's waste for tomorrow's future



**Glass Tech
Recycling Ltd**

Unit 10, Tank Farm Road
Llandarcy, Neath
West Glamorgan
SA10 6EN

t: 01792 321 020

f: 01792 321 021

e: info@glasstechrecycling.co.uk

glasstechrecycling.co.uk

Sand Replacement Specification Sheet

Description

Sand replacement is manufactured from 100% recycled glass bottles. The recovered glass is cleaned, crushed and sieved to produce 2 grades of material. By using this product instead of sand, it reduces the need for dredging our shores and protecting a very valuable resource.

Particle Size

Nominally 5mm to dust as standard.

Nominally 10mm to dust available on request and subject to a minimum order quantity.

Applications

Block Pavers & Slabs

Sand replacement is suitable for bedding clay and concrete block pavers and all types of paving slabs when laying patios and drives. It can also be used as a base for other garden features.

Groundworks

Sand replacement is the ideal economic alternative bedding for the protection of underground pipes and cables.

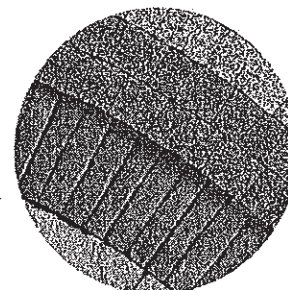
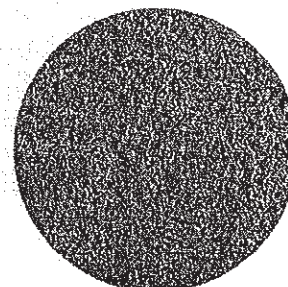
Fire Performance

Non combustible

Packaging

Sand replacement is available from stock in 1 tonne non-returnable bags or in bulk loads ranging from 7 to 28 tonnes. Material can be collected or delivered. Further details are available on request.

continued overleaf >



Using yesterday's waste for tomorrow's future

Complaint Form

Name and Address:		Tel:	
		Fax:	
		E-Mail:	
		Mobile:	
Date Complaint Received	Written or Verbal	Date Complaint Rectified	Written or Verbal
Nature of Complaint			
Remedial Action			
<i>All Complaints Should Be Discussed At The Next Management Review Meeting</i>			
Review Meeting Date	Complaint Discussed	Action Agreed	Signed (Meeting Rep.)
Comments			

Customer Complaint Log

[illegible]

MANAGING NON-COMPLIANT WASTES

[illegible]

REGISTER OF WASTE DELIVERIES FORM

[illegible]

TRAINING MATRIX

[illegible]

Training Record

Name	Date employment Commenced
Department	Job Title

Induction Training

Course Title	Authorisation by Line manager	Date of Authorisation	Date training Completed	Initialled by trainer

Qualifications gained in this employment

Expiry Date

--

Training requirements

--

External Training Courses

**Training Course
Dates**

**Organisation
Approval**

**Training Course
Dates**

**Organisation
Approval**

--	--

Knauf Cullet

[illegible]

Moisture Tests

[illegible]

Bottle Sampling & Inspection

[illegible]

MRF Sampling & Inspection

[illegible]

Maintenance Checklist

[illegible]

REPORT 4

BESPOKE ENVIRONMENTAL PERMIT APPLICATION

SUMMARY ENVIRONMENTAL MANAGEMENT SYSTEM

**Kings Dock
Swansea**

**Appendix 3
WAMITAB Certification**



Certificate No. OCC64092

Operator Competence Certificate

Qualification Title:

Non Hazardous transfer/with or without treatment (not otherwise specified) (4MPTNH6)

This Certificate is awarded to

Ceri Litchfield

Awarded: 09/08/2013

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer



**The Chartered Institution
of Wastes Management**

This certificate is jointly awarded by WAMITAB and the Chartered Institution of Wastes Management (CIWM) and provides evidence to meet the Operator Competence requirements of the Environmental Permitting (EP) Regulations, which came into force on 6 April 2008.



00056604



Certificate No. OCC64091

Operator Competence Certificate

Qualification Title:

Non hazardous transfer/with or without treatment (not otherwise specified) (4MTSNH6)

This Certificate is awarded to

Ceri Litchfield

Awarded: 09/08/2013

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer



**The Chartered Institution
of Wastes Management**

This certificate is jointly awarded by WAMITAB and the Chartered Institution of Wastes Management (CIWM) and provides evidence to meet the Operator Competence requirements of the Environmental Permitting (EP) Regulations, which came into force on 6 April 2008.



00056603



Certificate No. OCC64089

Operator Competence Certificate

Qualification Title:

Non Hazardous transfer/with or without treatment (not otherwise specified) (4MPTNH6)

This Certificate is awarded to

Karen John

Awarded: 09/08/2013

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer



**The Chartered Institution
of Wastes Management**

This certificate is jointly awarded by WAMITAB and the Chartered Institution of Wastes Management (CIWM) and provides evidence to meet the Operator Competence requirements of the Environmental Permitting (EP) Regulations, which came into force on 6 April 2008.



00056606



Certificate No. OCC64093

Operator Competence Certificate

Qualification Title:

Non hazardous transfer/with or without treatment (not otherwise specified) (4MTSNH6)

This Certificate is awarded to

Karen John

Awarded: 09/08/2013

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer



**The Chartered Institution
of Wastes Management**

This certificate is jointly awarded by WAMITAB and the Chartered Institution of Wastes Management (CIWM) and provides evidence to meet the Operator Competence requirements of the Environmental Permitting (EP) Regulations, which came into force on 6 April 2008.



00056605

REPORT 4

BESPOKE ENVIRONMENTAL PERMIT APPLICATION

SUMMARY ENVIRONMENTAL MANAGEMENT SYSTEM

**Kings Dock
Swansea**

**Appendix 4
Forms to be Included in
Factory Production
Control**

PRODUCT ENQUIRY FORM	
ENQUIRY FROM	
DATE	
CONTACT DETAILS OF SITE ADDRESS WHERE PRODUCT IS REQUIRED	
PRODUCT REQUIREMENTS	
PRODUCT SPECIFICATION	
TONNAGE REQUIRED OF PRODUCT	
ADDITIONAL SPECIFIC REQUIREMENTS FOR PRODUCT	
DELIVERY or COLLECTION DETAILS	
OTHER DETAILS/ COMMENTS	

DAILY PROCESS CONTROL RECORD FORM

[illegible]

SAMPLING REPORT FORM

Sampling Sheet No								
Production Week Ending:		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Date:								
Product								
Type								
Upper Aggregate Size								
Purpose for aggregate:								
Location of Sampling Points: Stockpile Middle / Base								
Batch Name:								
Batch Size (tonnage):								
Comments:								
Sampling Method Description								
Date								
Sampling Plan Used								
Weather During Sampling:								
Sampling Procedure:								
Sampling apparatus:								
Mass of sampling increments in Kg:								
Number of sampling increments								
Sampler- print name and signature:								
Sampling Dispatch								
Samples combined to form representative batch sample of weeks production		Unique Sample Reference No.		Contact Test Laboratory (Date) for collection		Bulk samples collected by laboratory (date)		

WEEKLY SITE INSPECTION FORM

Week ending:							
Inspected By:							
Site Road Condition							
Waste Volumes							
Waste Stockpile Stability							
Product Stockpile Stability							
Dust							
Odour							
Noise							
Litter							
Site Security							
Vandalism							
Weather							
Other							
<u>Actions</u>							

PRODUCT NON-CONFORMANCE FORM

[illegible]