

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758.

mitsubishi heavy industries,
LTD.

KS-21™ Solvent

Revision Date 12. 15. 2023

Version 9.6

EN

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

1.1 Product identifier

Product form : Mixture
Product name : KS-21™ Solvent

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

Relevant identified uses

Main use category : Industrial use
Use of the Substance/Mixture : Solvent
Uses advised against : It is not to be used for Advanced KM CDR Process™ for CO₂ capture units
Not recommended use : Other than indicated above

1.3 Details of the supplier of the safety data sheet

Distributor / Importer (EU) : MITSUBISHI HEAVY INDUSTRIES FRANCE S.A.S. 32, RUE DE MONCEAU 75008 PARIS, FRANCE

Telephone : +33-6-4074-2523

E-mail address : hiroaki.ichihashi.47@mhi.com

1.4 Emergency Telephone Number

24 h Emergency Telephone : +44 20 3807 3798 London
Number (CHEMTREC)

Supplier : Mitsubishi Heavy Industries, Ltd.
3-3-1, MINATOMIRAI, NISHI-KU, YOKOHAMA 220-8401
JAPAN

Telephone : +81-80-1170-3261

E-mail address : takashi.kamijo.yt@mhi.com

2. HAZARDS IDENTIFICATION

2.1 Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Corrosion/Irritation: Category 1B	H314
Skin Sensitization: Category 1	H317
Serious eye damage/eye irritation: Category 1	H318
Respiratory Sensitization: Category 1	H334
Reproductive toxicity: Category 2	H361fd
Persistent, Bioaccumulative and Toxic (PBT) very Persistent and very Bioaccumulative (vPvB): Not classified	-

Full text of hazard classes and EUH-statements: see section 16

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Adverse physicochemical, human health and environmental effects
No additional information available

2.2 Label Elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05



GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.

: H317 - May cause an allergic skin reaction.

: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

: H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements (CLP)

: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.

: P284 - [In case of inadequate ventilation] wear respiratory protection.

: P303+P361+P353+310 - IF ON SKIN (or hair):
Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor.

: P304+P340 - IF INHALED:
Remove person to fresh air and keep comfortable for breathing

: P305+P351+P338+310 - IF IN EYES:
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor

: P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Unknown acute toxicity (CLP)
-SDS

: 27.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

: 70% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Unknown hazards to the aquatic environment (CLP)

: Contains 27.5 % of components with unknown hazards to the aquatic environment

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2.3 Other Hazards

: This substance/mixture does not meet the PBT criteria of REACH regulation, annex XII

3. COMPOSITION/ INFORMATION ON INGREDIENTS3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	CAS-No.	EC-No.	REACH Reg.-No.	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration [%]
	Registered	Registered	Registered	Acute Tox. 4 (Oral), H302 (ATE=1000 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318	
	Registered	Registered	Registered	Acute Tox. 4 (Oral), H302 (ATE=600 mg/kg bodyweight) Acute Tox. 4 (Dermal), H312 (ATE=1590 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 Repr. 2, H361fd	
	Registered	Registered	-	Eye Dam. 1, H318	
	7732-18-5	Registered	Registered		

Full text of H-statements: see section 16.

4. FIRST AID MEASURES4.1 Description of first aid measures

General advice : Call a doctor immediately if allergic signs, particularly in the respiratory tract, are observed. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider needs to protect himself. Move out of dangerous area. Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately.

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- | | |
|---------------------------------------|---|
| First-aid measures after Inhalation | : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. |
| First-aid measures after Skin contact | : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor. |
| First-aid measures after Eye contact | : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. |
| First-aid measures after Ingestion | : IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. Never give anything by mouth to an unconscious person. |

4.2 Most important symptoms and effects, both acute and delayed

- | | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : Causes severe damage to the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Symptoms/effects after skin contact | : Causes severe skin burns. Symptoms may include redness, pain, blisters. May cause an allergic skin reaction. |
| Symptoms/effects after eye contact | : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. |
| Chronic symptoms | : Suspected of damaging fertility. Suspected of damaging the unborn child. |

4.3 Indication of any immediate medical attention and special treatment needed

- : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. FIRE-FIGHTING MEASURES**5.1 Extinguishing media**

- | | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : Do not use water jet. |

5.2 Special hazards arising from the substance or mixture

- | | |
|-------------|--|
| Fire hazard | : Products of combustion may include, and are not limited to: oxides of carbon. Nitrogen dioxide. Toxic fumes may be released. |
|-------------|--|

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5.3 Advice for firefighters

Firefighting instructions : Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1 For non-emergency personnel

Emergency procedures : Do not touch or walk on the spilled product.

6.1.2 For emergency responders

Evacuate all non-essential personnel. Ventilate area.

6.2 Environmental precautions : Prevent entry to sewers and public waters.

6.3 Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Clean contaminated surfaces thoroughly. Provide ventilation.

6.4 Reference to other sections : For further information refer to section 8: "Exposure controls/personal protection".

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/ mist/vapors/spray. Do not eat, drink or smoke when using this product. Do not swallow. Do not get in eyes, on skin, or on clothing. Handle and open container with care. Use only in well ventilated areas.

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Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Store locked up. Store in original container. Keep container tightly closed, dry and in a well-ventilated place. Store in a cool and shaded area. Keep in an area equipped with alkali and solvent resistant flooring. Keep away from food, drink and animal feeding stuffs.

7.3 Specific end use(s)

: Not available

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control Parameters

Components	CAS-No.	Control parameters	Update	Nation
	Registered		2018-01-30	EU
	Registered			UK

8.2 Exposure Controls

Appropriate engineering controls:

Ensure good ventilation of the workstation.

Provide readily accessible eye wash stations and safety showers.

Respiratory protection : Wear respiratory protection. Respirator with combination filters for vapour/particulate.

Hand Protection : Chemical resistant gloves (according to European standard NF EN 374 or equivalent).

Eye protection : Safety eyewear complying with an approved standard such as the European Standard EN166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin and body protection : Wear suitable protective clothing

Environmental exposure controls : Avoid release to the environment.

Other information: : Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	: Liquid
Colour	: Colourless
Odour	: Ammoniacal
Odour threshold	: No data available *3)
Flash point	: Not detected (ASTM D92, Cleveland open cup tester)
	: Not detected (ASTM D93, Pensky-Martens closed cup tester)
Lower explosion limit	: Not explosive
Upper explosion limit	: Not explosive
Explosive properties	: Not explosive
Flammability (solid, gas)	: No data available *2) *3)
Oxidizing properties	: No oxidizing effect
Auto ignition temperature *1)	: Not detected (ASTM D92, Cleveland open cup tester)
pH	: 11.7 (1% aq.)
Freezing point	: < - 45 °C
Boiling point / boiling range	: No data available *3)
Vapour pressure	: No data available *3)
Density	: 1.003 g/cm ³ at 20 °C
Water solubility	: Completely soluble
Partition coefficient n-octanol / water	: No data available *3)
Viscosity, dynamic	: No data available *3)
Relative vapour density	: No data available *3)
Melting point	: No data available *3)
Decomposition temperature	: No data available *3)
Viscosity, kinematic	: No data available *3)
Explosive properties	: Not explosive

9.2 Other information

No additional information available.

Note :

*1) Auto Ignition temperature

The temperature at which the product ignites by itself without having ignited by an outer source.

*2) Flammable liquid

EU regulation (EC No. 1272/2008) defines "Flammable liquid means a liquid having a flash point of not more than 60 °C." And GHS (Global Harmonized system of classification and Labelling of Chemicals) defines "A Flammable liquid means a liquid having a flash point of not more than 93 °C."

*3) The reason is that Mitsubishi Heavy Industries Engineering, Ltd. has neither experimental data nor public data.

10. STABILITY AND REACTIVITY

10.1 Reactivity : No dangerous reactions known under normal conditions of use.

10.2 Chemical Stability : Stable under normal conditions.

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<u>10.3 Possibility of hazardous reactions</u>	: No dangerous reactions known under normal conditions of use.
<u>10.4 Conditions to avoid</u>	: Heat. Incompatible materials.
<u>10.5 Incompatible materials</u>	: Strong acids.
<u>10.6 Hazardous decomposition products</u>	: May include, and are not limited to: oxides of carbon. Nitrogen oxides. Toxic fumes may be released.

11. TOXICOLOGICAL INFORMATION11.1 Information on toxicological effects

Acute oral toxicity : Not classified

Acute dermal toxicity : Not classified

Acute inhalation toxicity : Not classified

Acute oral toxicity
: LD50 (rat): 1000 mg/kg
: LD50 (rat): 600 mg/kg
: LD50 (rat): 4570 mg/kg

Acute inhalation toxicity
: No mortality occurred in rats within 7h exposition (IRT).
: LC0 (rat): 4h : 2 mg/L air

Acute dermal toxicity
: LD50 (rat): 360 mg/kg
: LD50 (rabbit): 1590 mg/kg

Skin irritation
: Species: rabbit / Skin irritation.

Eye irritation
: Species: rabbit / Risk of serious damage to eyes.
: Species: rabbit / Eye irritation.

Unknown acute toxicity (CLP) – SDS
: 27.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
70% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

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<u>Skin corrosion / irritation</u>	: Causes severe skin burns. pH: 11.7 (1%aq)
<u>Serious eye damage/irritation</u>	: Causes serious eye damage. pH: 11.7 (1%aq)
<u>Respiratory or skin sensitisation</u>	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
<u>Germ cell mutagenicity</u>	: Not classified
<u>Additional information</u>	: Based on available data, the classification criteria are not met.
<u>Carcinogenicity</u>	: Not classified
<u>Additional information</u>	: Based on available data, the classification criteria are not met.
<u>Reproductive toxicity</u>	: NOAEL (rat): 125 mg/kg bw/day based on reduced pregnancy index, decreased number of implantation sites and decreased litter size.
<u>Specific target organ toxicity (single exposure)</u>	: Not classified.
<u>Additional information</u>	: Based on available data, the classification criteria are not met.
<u>Specific target organ toxicity (repeated exposure)</u>	: Not classified.
<u>Additional information</u>	: Based on available data, the classification criteria are not met.
<u>Aspiration hazard</u>	: Not classified.
<u>Additional information</u>	: Based on available data, the classification criteria are not met.
<u>Other information</u>	: Likely routes of exposure: ingestion, inhalation, skin and eye.

12. ECOLOGICAL INFORMATION12.1 ToxicityGeneral

: May cause long-term adverse effects in the aquatic environment.

Unknown hazards to the aquatic environment (CLP)

: Contains 27.5 % of components with unknown hazards to the aquatic environment

Hazardous to the aquatic environment, short term (acute)

: Not classified

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Hazardous to the aquatic environment, long-term (chronic)

: Not classified

Toxicity to aquatic species

- : NOEC (Pseudokirchneriella subcapitata (algae)): 1 mg/l Exposure time: 72 h
- : LC50 (Pimephales promelas (fish1)): 1290 - 1700 mg/l Exposure time: 96 h [flow-through]
- : LC50 (Leuciscus idus (fish2)): 147 mg/l
- : LC50 (Poecilia reticulata (guppy)): > 1800 mg/l Exposure time: 96 h
- : LC50 (Lepomis macrochirus (fish1)) : > 10000 mg/l Exposure time: 96 h [static]
- : EC50 (Daphnia magna (Crustacea)): 21 mg/l
- : LOEC (chronic) (Daphnia magna): 8 mg/l Duration 21 days
- : NOEC (chronic) (Daphnia magna): 3.2 mg/l Duration 21 days
- : NOEC (chronic fish) (Pimephales promelas): 7.98 mg/l Duration 28 days

12.2 Persistence and degradability

KS-21™ solvent : Not established.

12.3 Bio accumulative potential

KS-21™ solvent : Not established.

Bio concentration factor (BCF)

: BCF (Lepomis macrochirus (fish1)): 0.3 - 3.9

Additional ecological information

: The product should not be allowed to enter drains, water courses or the soil. We have no quantitative data concerning the ecological effects of this product.

12.4 Mobility in Soil

: No additional information available.

12.5 Results of Persistent, Bioaccumulative and Toxic (PBT) very Persistent and very Bioaccumulative (vPvB)

: Not classified

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12.6 Other adverse effects : No other effect known**13. DISPOSAL CONSIDERATION**13.1 Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Do not reuse container. Empty containers may contain residues which are hazardous.

14. TRANSPORT INFORMATION14.1 Un Number

ADR : 2735
RID : 2735
IATA : 2735
IMDG : 2735

14.2 UN proper shipping name

Proper Shipping Name (ADR) : AMINES, LIQUID, CORROSIVE, N.O.S.

Proper Shipping Name (RID) : AMINES, LIQUID, CORROSIVE, N.O.S.

Proper Shipping Name (IATA) : AMINES, LIQUID, CORROSIVE, N.O.S.

Proper Shipping Name (IMDG) : AMINES, LIQUID, CORROSIVE, N.O.S.

14.3 Transport hazard class(es)

ADR
Class : 8
Danger labels :



Classification Code : C7
Hazard identification No : 80
Labels : 8
Limited quantity : LQ7
Tunnel restriction code : E

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RID

Class : 8
Danger labels :



Classification Code : C7
Hazard identification No : 80
Labels : 8
Limited quantity : LQ7

IATA

Class : 8
Danger labels :



Labels : 8
Packing instruction : 855
(cargo aircraft)
Packing instruction : 851
(passenger aircraft)
Packing instruction (LQ) : Y840

IMDG

Class : 8
Danger labels :



Labels : 8
EmS number 1 : F-A
EmS number 2 : S-B
Marine pollutant : No

14.4 Packing group

ADR : II
RID : II
IATA : II
IMDG : II

14.5 Environmentally hazardous

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

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14.6 Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

Overland transport (orange plates)

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14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No additional information available

15. REGULATORY INFORMATION

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

Relevant EU provisions transposed through retained EU law

15.1.1 EU-Regulation

Contains no REACH substances with Annex XVII restrictions

Contains no REACH candidate substance.

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2 National Regulation

No additional information available

15.2 Chemical safety assessment

: A Chemical Safety Assessment has carried out for this substance.

16. OTHER INFORMATION

Indication of changes : None.

Abbreviations and acronyms:

° C – Degree Celsius

ACGIH – American Conference of Governmental Industrial Hygienists

ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE – Acute Toxicity Estimate

BCF – Bioconcentration Factor

BEI – Biological Exposure Index

CAS – Chemical Abstracts Service

CLP – Regulation (EC) No 1272/2008 on the Classification, Labeling and Packaging of substances and mixtures.

CMR – Carcinogen, Mutagen, Reproductive toxin

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cP – centipoise (unit of dynamic viscosity)
cSt – centistokes (unit of kinematic viscosity)
DNEL – Derived No-effect Level
DMEL – Derived Minimal Effect Level
EC50 – Half maximal effective concentration
ECHA – European Chemicals Agency
EC-No. – European Community number
EU – European Union
GHS – Globally Harmonized System of Classification and Labelling of Chemicals
h – Hours
IATA – International Air Transport Association
IC50 – Inhibition concentration
IDLH – Immediately Dangerous to Life or Health
IMDG – International Maritime Dangerous Goods
IOELV – Indicative Occupational Exposure Limit Value
kPa – kilopascal
Koc – Adsorption Coefficient
Kow – Octanol-Water Partition Coefficient
LC50 – Median Lethal Concentration
LD50 – Median Lethal Dose
LOAEL – Lowest Observed Adverse Effect level
mg/l – Milligram per liter
mg/kg – Milligram per kilogram
mg/m³ – Milligram per cubic meter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NO(A)EL – No Observed (Adverse) Effect Level
N.O.S. – Not Otherwise Specified
PBT - Persistent, Bioaccumulative and Toxic
PCN – Poison Centre Notification
PNEC – Predicted No Effect Concentration
ppm – Parts per million
PVC – Polyvinyl chloride
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID – European Agreement concerning the International Carriage of Dangerous Goods by Rail
SDS – Safety Data Sheet
STEL – Short Term Exposure Limit
STOT – Specific Target Organ Toxicity
SVHC – Substance of Very High Concern (CMR, vPvB, PBT)
TDI – Tolerable Daily Intake
TLV – Threshold Limit Value
TWA – Time Weighted Average
UFI – Unique Formulation Identifier
UN – United Nations
vPvB - Very Persistent and Very Bioaccumulative
WEL – Workplace Exposure Limit
WGK – Wassergefährdungsklasse – German water quality classification

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Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : The handling method of this solvent will be instructed by operating & chemical analysis training according to the license agreement.

Full text of H- and EUH- statements

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Repr. 2	Reproductive toxicity, Category 2
Resp. Sens. 1	Respiratory sensitization, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Sens. 1	Skin sensitization, Category 1
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Corr. 1A	H314	On basis of test data.
Skin Sens. 1	H317	On basis of test data.
Eye Dam. 1	H318	Concentration limits.
Resp. Sens. 1	H334	Concentration limits.
Repr. 2	H361fd	Concentration limits.

Other information for control parameters

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Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitizers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitizer will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. Substances that can cause occupational asthma are classified under the "Chemicals (Hazard information and Packaging for supply) Regulations (CHIP)" and assigned the risk phrase 'H334 May cause sensitization by inhalation' or 'H334/H317 May cause sensitization by inhalation and skin contact' in the "Approved supply list".

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Wherever it is reasonably practicable, exposure to substances that can cause occupational; asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced to as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employee exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance.

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Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'H334: May cause sensitization by inhalation'; or 'H334/H317: May cause sensitization by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen' Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma.

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