



Appendix D - Figure 12

MATERIAL SAFETY DATA SHEET

REF: 91/155/EEC AND AMENDMENTS WITH RESPECTIVE NATIONAL IMPLEMENTATIONS

SODIUM CITRATE

1.0 SUBSTANCE IDENTIFICATION

- 1.1 Commercial product name: Sodium Citrate including anhydrous, dehydrate etc
- 1.2 Chemical characterisation: Trisodium salt of 2-hydroxypropane-1,2,3, tricarboxylate
- 1.3 Formula:
- 1.4 Molecular weight: approx 258 - 294
- 1.5 CAS No: 6132-04-3
- 1.6 EINECS No.: 200-675-3
- 1.7 **FOR USE IN FOOD as a food additive**
- 1.8 Manufactured by: Archer Daniels Midland Company, 4666 Faries Parkway,
Decatur, Illinois 62526, U.S.A.
- 1.9 Supplied by: ADM Australia Pty Ltd, PO Box 281, Suite 1003, Level 10,
1 Newland Street, Bondi Junction, NSW 2022
- 1.10 **Australian Emergency Telephone Number: 0417285396**

2.0 COMPOSITION

- 2.1 Totally 100% sodium citrate
- 2.2 Volatile matter 6-12 % maximum after drying for 4 hours at 180°C
- 2.3 Sodium ion content typically 23 - 24%

3.0 HAZARDS IDENTIFICATION

- 3.1 **Sodium citrate is not classified as a Dangerous Substance within the definitions of EC Directive 67/584**
- 3.2 Contact with eyes (e.g. dust particles) may cause irritation.

4.0 FIRST AID MEASURES

- 4.1 Flush affected parts with plenty of water

5.0 FIRE FIGHTING MEASURES

- 5.1 All types of fire extinguisher are suitable
- 5.2 Firefighters wear protective clothing and NIOSH approved respirator

6.0 ACCIDENTAL RELEASE MEASURES

- 6.1 After spillage/leakage : Recover by vacuum, or broom and shovel. Flush area with water to remove final traces.

7.0 HANDLING AND STORAGE

- 7.1 Store in tightly closed containers, away from extreme heat and humidity. Maximum 25°C and 50% relative humidity.
- 7.2 Industrial Hygiene: Good ventilation required if process creates the formation of dust.

8.0 EXPOSURE CONTROLS / PERSONAL PROTECTION

- | | | |
|-----|-------------------------|---|
| 8.1 | Personal precautions: | Avoid breathing dust.
Avoid contact with eyes. |
| 8.2 | Respiratory protection: | Approved nuisance dust mask |
| 8.3 | Hand protection: | Standard work gloves |
| 8.4 | Eye protection: | Goggles or safety glasses |

9.0 PHYSICAL AND CHEMICAL PROPERTIES

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|------|---|
| 9.1 | Appearance: Crystals |
| 9.2 | Colour: Colourless |
| 9.3 | Odour: Odourless |
| 9.4 | Molecular weight: 258 - 294 |
| 9.5 | Change in physical state: Loss of water above 180°C, with decomposition |
| 9.6 | Specific gravity Bulk density: 1.97 920-1150 kg/m ³ (typical range) |
| 9.8 | Vapour pressure: N/A - solid |
| 9.9 | Viscosity: N/A - solid |
| 9.10 | Solubility - in water (25°C) 40 - 60% w/w
- in ethanol (25°C) Insoluble |
| 9.11 | pH (5% solution) (25°C) 7 - 9 |
| 9.12 | Flash point N/A |
| 9.13 | Explosive properties N/A |
| 9.14 | Flammability: Requires external heat to burn |
| 9.12 | Thermal decomposition: Above 230°C may evolve carbon monoxide
and carbon dioxide |

10.0 STABILITY AND REACTIVITY

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|------|--------------|--|
| 10.1 | Shelf life : | Sodium citrate is chemically stable if stored under cool, dry conditions; 25°C maximum and 50% relative humidity. It deliquesces in moist air. Physical properties may change on storage: re-test recommended periodically based on actual storage conditions. |
| 10.4 | Reactivity: | Sodium citrate is a neutral salt with low activity. |

11.0 TOXICOLOGICAL INFORMATION

- 11.1 LD₅₀ (dog): Not available

12.0 ECOLOGICAL INFORMATION

- | | |
|------|---------------|
| 12.1 | Not Available |
| 12.2 | Not Available |

13.0 DISPOSAL CONSIDERATIONS

13.1 Sodium citrate is suitable for landfill or disposal to sewer **depending upon local regulations.**

14.0 TRANSPORT INFORMATION

14.1 No special considerations

15.0 REGULATORY INFORMATION

15.1 Sodium citrate is an EU permitted Food Additive (E 332). Conditions of use: Quantum Satis. The US Food and Drug Administration classifies potassium citrate as a GRAS (Generally Recognised As Safe) food ingredient.

15.2 According to the Joint Expert Committee on Food Additives of WHO/FAO potassium Citrate may be used without limitation according to Good Manufacturing Practices.

16.0 ADDITIONAL INFORMATION

16.1 See Product Data Sheet.