

| <u>SDs number</u> | <u>Product</u> | <u>Issued</u> | <u>Expires</u> |
|-------------------|-------------------------|-------------------|-------------------|
| <u>0018-03</u> | <u>Acetic anhydride</u> | <u>24.01.2024</u> | <u>24.01.2029</u> |

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name

ECP Limited

Address:

Unit 2.1, 18 Kawana Street, Northcote, Auckland, New Zealand

| | | |
|---|--------------------|--------------------|
| Emergency Tel: 0800 243 622 or0800 CHE M CA LL | Tel +64 9 480 4386 | FAX +64 9 480 4385 |
|---|--------------------|--------------------|

| Product | Acetic anhydride | | | | Code | 0018-03 |
|----------|------------------|------|-------------|-----------------|-----------|-----------------------|
| CAS# | HSNO# | UN # | DG Class/es | Packing group # | Tracking? | Handlers Certificate? |
| 108-24-7 | HSR002596 | 1715 | 8 & 3 | II | No | No |

Recommended use: Laboratory Investigations

2. Hazards Identification

2. HAZARDS IDENTIFICATION

2.1 GHS Classification

Flammable liquids (Category 3), H226

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Skin corrosion/irritation (Category 1C), H314

Serious eye damage/eye irritation (Category 1), H318

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Danger**

Hazard statement(s)

H226 Flammable liquid and vapor.

H302 + H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P264 Wash skin thoroughly after handling.

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

Response

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 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.

P370 + P378 In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam to extinguish.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS Substance / Mixture:

Substance /Mixture : Substance

3.1 Substances

Formula : C₄H₆O₃

Molecular weight: 102.09 g/mol

CAS-No.: 108-24-7

EC-No. : 203-564-8

Index-No. : 607-008-00-9

Hazardous components

Acetic anhydride 100% New Zealand Classification:

| Component | Classification | Concentration |
|------------------|--|---------------|
| Acetic anhydride | Flam. Liq. 3; Acute Tox. 4; Skin Corr./Irrit. 1C; Eye Dam./Irrit. 1; H226, H302, H332, H314, H318 Concentration limits: >= 25 %: Skin Corr. 1B, H314; 5 - < 25 %: Skin Irrit. 2, H315; 5 - < 25 %: Eye Dam. 1, H318; 1 - < 5 %: Eye Irrit. 2, H319; >= 5 %: STOT SE 3, H335; | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 2

4. FIRST AID MEASURES

4.1 Description of first aid measures General advice First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance. If inhaled If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician. After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen. In case of skin contact In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately. In case of eye contact After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses. If swallowed After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed.

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

Foam Water

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. May not get in touch with: Water Caution! in contact with water product releases: Organic acids Fire may cause evolution of: Acetic acid vapours Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures Wear respiratory protection. Avoid breathing vapours, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage. Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities.

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature see product label.

7.3 Specific end use(s) No data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters ; Occupational Exposure Limits Table

| Component | CAS No | Value | Control parameters | Basis |
|------------------|----------|-------------|-----------------------------|--|
| Acetic anhydride | 108-24-7 | WES-Ceiling | 5ppm 21mg/m ³ | New Zealand . Workplace exposure. Standards for atmospheric Contaminants |
| | | | | |
| | | | | |
| | | | | |

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product. Personal protective equipment Eye/face protection Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination.

If the respirator is the sole means of protection, use a full-face supplied air respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties a) Appearance Form: liquid Colour: colourless b) Odour pungent c) Odour Threshold No data available d) pH No data available e) Melting point/freezing point Melting point/range: -73 °C f) Initial boiling point and boiling range 138 - 140 °C g) Flash point 49 °C - closed cup h) Evaporation rate No data available i) Flammability (solid, gas) No data available j) Upper/lower flammability or explosive limits Upper explosion limit: 10.3 %(V) Lower explosion limit: 2.7 %(V) k) Vapour pressure 5 hPa at 20 °C 13 hPa at 36 °C 6.69 hPa l) Vapour density 3.52 - (Air = 1.0) m) Relative density 1.08 g/mL n) Water solubility slightly soluble o) Partition coefficient: noctanol/water log Pow: ca.-0.27 p) Auto-ignition temperature 316 °C q) Decomposition temperature No data available r) Viscosity No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Can violently decompose at elevated temperatures.

Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability

Decomposes when moist.

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions Risk of explosion with: ethanol, potassium permanganate, Strong oxidizing agents, perchloric acid, Nitric acid ,hydrogen peroxide, chromium(VI) oxide ,barium peroxide, peroxi compounds ,ammonium nitrate with Nitric acid Exothermic reaction with:

Ammonia, Potassium hydroxide, nitrates, Sodium hydroxide, Acetic acid, diluted

Violent reactions possible with:

Water, Possible formation of: acetic acid

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

Iron, Copper

10.6 Hazardous decomposition products

In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION 11.1 Information on toxicological effects Acute toxicity Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitisation Germ cell mutagenicity Carcinogenicity IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC. Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure Aspiration hazard Potential health effects Inhalation May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Ingestion Harmful if swallowed. Causes burns. Skin May be harmful if absorbed through skin. Causes skin burns. Eyes Causes eye burns. Signs and Symptoms of Exposure burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Additional Information RTECS: AK1925000

12. ECOLOGICAL INFORMATION

12.1 Toxicity 12.2 Persistence and degradability 12.3 Bioaccumulative potential 12.4 Mobility in soil 12.5 Results of PBT and vPvB assessment No data available 12.6 Other adverse effects

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Product Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging Dispose of as unused product.

14. TRANSPORT INFORMATION

Transport Information Table

| | | ADR/RID – European packaging certification | IMDG International Maritime Dangerous Goods Code | IATA – DGR International Air Travel Association – Dangerous Goods Regulations |
|------|------------------------------------|---|---|--|
| 14.1 | UN Number | 1715 | 1715 | 1715 |
| 14.2 | UN Proper Shipping name | Acetic anhydride | | |
| 14.3 | Transport Hazard Class | 8 (3) | 8 (3) | 8 (3) |
| 14.4 | Packaging group | II | II | II |
| 14.5 | Environmental Hazards | No | No | No |

15. REGULATORY INFORMATION

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

National regulatory information HSNO Group Standard Approval: HSR002596 –

Tracking required.

Handler Cert.: not required

16. Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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