SDS 40680 Perchloric Acid 0.1N in Glacial Acetic Acid

Date of Issue: 05/07/2019 Expiry: 01/08/2024

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name **ECP Limited**

Address: 39 Woodside Ave, Northcote, Auckland , New Zealand

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

| **Product** | Perchloric Acid 0.1N in Glacial Acetic Acid | | | **Code** | | 40680 |
|---|---|---|---|---|---|---|
| **CAS#** | **HSNO#** | **UN #** | **DG Class/es** | **Packing group #** | **Tracking?** | **Handlers Certificate?** |
| 64-19-7 | HSR000975 | 2789 | 8 (3) | II | No | No |

**Recommended use:** Laboratory Investigations

**2. Hazards identification**

2.1 GHS Classification

Flammable Liquids (Category C)

Acute toxicity, Oral (Category E)

Skin corrosion (Category A)

Serious eye damage (Category A)

2.2 GHS Label elements, including precautionary statements

Pictogram 

Signal word **Danger**

Hazard statement(s)

H226 Flammable liquid and vapour.

H303 May be harmful if swallowed.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash skin thoroughly after handling.

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

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see supplemental first aid instructions on this label).
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal
P501 Dispose of contents/ container to an approved waste disposal plant.

**3. Composition/information on ingredients**
Substance/Mixture: Substance
3.1 Substances
Hazardous components

| Components | Classification | Concentration |
|---|---|---|
| Acetic Acid | | |
| | 3.1 C; 6.1 E; 8.2 A; 8.3 A; H226, H303, H314, H318 Concentration limits: >= 50 %: Met. Corr. 1, H290; >= 90 %: Flam. Liq. 3, H226 | <= 100% |

**4. First aid measures**
4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a
physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water.
Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. May cause spasm, inflammation and oedema of the larynx, spasm, inflammation and oedema of the bronchi, pneumonitis, pulmonary oedema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include hematemesis, bloody diarrhoea, oedema and/or perforation of the oesophagus and pylorus, pancreatitis, haematuria, anuria, uraemia, albuminuria, haemolysis, convulsions, bronchitis, pulmonary oedema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness.

**5. Firefighting measures**
5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
No data available
5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
5.4 Further information
Use water spray to cool unopened containers.

**6. Accidental release measures**
6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. 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 or spillage if safe to do so. Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal.

**7. Handling and storage**
7.1 Precautions for safe handling
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. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Moisture sensitive.

**8. Exposure controls/personal protection**
8.1 Control parameters
Occupational Exposure Limits Table

| **Component** | **CAS No** | **Value** | **Control parameters** | **Basis** |
|---|---|---|---|---|
| Acetic acid | 64-19-7 | WES-TWA | 10 ppm<br>25 mg/m$^3$ | New Zealand. Workplace Exposure Standards for Atmospheric Contaminants |
| | | WES-STEL | 15 ppm<br>37 mg/m$^3$ | New Zealand. Workplace Exposure Standards for Atmospheric Contaminants |

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment
Eye/face protection
Face shield and safety glasses. 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.
Full contact
Material: Butyl rubber
Minimum layer thickness: 0.3 mm
Break through time: 480 min
Splash contact
Material: Chloroprene
Minimum layer thickness: 0.6 mm
Break through time: 32 min
Body Protection
Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

**9. Physical and chemical properties**
9.1 Information on basic physical and chemical properties
a) Appearance
Form: liquid
Colour: colourless
b) Odour
Pungent
c) pH
2.4 at 60.05 g/l
d) Melting point/freezing point
Melting point/range: 16.2 °C - lit.
e) Initial boiling point and boiling range
117 - 118 °C - lit.
f) Flash point
40.0 °C - closed cup
g) Upper/lower flammability or explosive limits
Upper explosion limit: 19.9%(V)
Lower explosion limit: 4%(V)
h) Vapour pressure
73.3 hPa at 50.0 °C; 15.2 hPa at 20.0 °C
i) Relative density
1.049 g/$cm^3$ at 25 °C
j) Water solubility
completely miscible
k) Partition coefficient: n-octanol/water
log Pow: -0.17
l) Auto-ignition temperature
485.0 °C

**10. Stability and reactivity**

10.1 Conditions to avoid

Heat, flames and sparks.

10.2 Incompatible materials

Oxidizing agents, soluble carbonates and phosphates, hydroxides, metals, peroxides, permanganates, amines, alcohols, nitric acid.

10.3 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions

Carbon oxides

**11. Toxicological information**

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 3,310 mg/kg

LC50 Inhalation - Mouse - 1 h - 5620 ppm

Remarks:

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Conjunctive irritation. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other. Blood: Other changes.

LC50 Inhalation - Rat - 4 h - 11.4 mg/l

LD50 Dermal - Rabbit - 1,112 mg/kg

Skin corrosion/irritation

Skin - Rabbit - Causes severe burns.

Serious eye damage/eye irritation

Eyes - Rabbit - Corrosive to eyes

Respiratory or skin sensitisation

May cause sensitisation by skin contact.

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.

Potential health effects

Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

May be 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

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. May cause spasm, inflammation and oedema of the larynx, spasm, inflammation and oedema of the bronchi, pneumonitis, pulmonary oedema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts, hematemesis, bloody diarrhoea, oedema and/or perforation of the oesophagus and pylorus, pancreatitis, haematuria, anuria, uraemia, albuminuria, haemolysis, convulsions, bronchitis, pulmonary oedema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness.

Additional Information
RTECS: AF1225000

**12. Ecological information**

12.1 Toxicity
Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1,000 mg/l - 96 h
Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - > 300.82 mg/l - 48 h
Method: OECD Test Guideline 202
12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 30 d
Result: 99 % - Readily biodegradable.
Remarks: Expected to be biodegradable
12.3 Other adverse effects
Biochemical oxygen demand (BOD)
880 mg/g

**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 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** | 2789 | - | 2789 |
| **14.2** | **UN Proper Shipping name** | ACETIC ACID, GLACIAL | - | ACETIC ACID, GLACIAL |
| **14.3** | **Transport Hazard Class** | 8 (3) | - | 8 (3) |
| **14.4** | **Packaging group** | II | - | II |
| **14.5** | **Environmental Hazards** | No | - | No |
| **14.6** | **Special precautions for user** | None | | |

**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 - Laboratory Chemicals and Reagent Kits Group Standard 2006
Tracking Required: not required
Approved 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 particular 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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