SDS 2130 1,2-Dichloroethane

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1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name **ECP Limited**

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Product	1,2-Dichloroethane				**Code**	2130
CAS#	**HSNO#**	**UN #**	**DG Class/es**	**Packing group #**	**Tracking?**	**Handlers Certificate?**
107-06-2	HSR001152	1184	3 (6.1)	II	No	6.1C

Recommended use: Laboratory Investigations

2. Hazards identification

2.1 GHS Classification

Flammable Liquids (Category B)

Acute toxicity, Oral (Category D)

Acute toxicity, Inhalation (Category C)

Acute toxicity, Dermal (Category E)

Skin irritation (Category A)

Eye irritation (Category A)

Carcinogenicity (Category A)

Aquatic toxicity (Acute or Chronic) (Category D)

2.2 GHS Label elements, including precautionary statements

Pictogram  Signal word **Danger**

Hazard statement(s)

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H313 May be harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H350 May cause cancer.

H413 May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

Prevention

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response
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.
P311 Call a POISON CENTER or doctor/ physician.
P330 Rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
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. Restricted to professional users.
2.3 Other hazards
None

3. Composition/information on ingredients
3.1 Substances
Synonyms: Ethylene dichloride, ethylene chloride
Formula: $C_2H_4Cl_2$
Molecular Weight: 98.96 g/mol

Component		Concentration
Ethylene dichloride		
CAS No.	107-06-2	<=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
Wash off with soap and plenty of water. Take victim immediately to hospital. 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

Acts as a simple asphyxiant by displacing air, anaesthetic effects, difficulty in breathing, headache, dizziness. Prolonged or repeated contact with skin may cause defatting and dermatitis. Contact with eyes can cause redness, blurred vision, or provoke tears. Effects due to ingestion may include gastrointestinal discomfort, central nervous system depression and paraesthesia. Drowsiness, convulsions, conjunctivitis., pulmonary oedema. Delayed effects may be irregular breathing., stomach/intestinal disorders, nausea, vomiting, increased liver enzymes. Weakness, heavy or prolonged skin exposure may result in the absorption of harmful amounts of material.
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
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Carbon oxides, Hydrogen chloride gas.
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
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 or spillage if safe to do so. Do not let product enter drains.
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.

7. Handling and storage
7.1 Precautions for safe handling
Avoid exposure - obtain special instructions before use. 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
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**
Ethylene dichloride	107-06-2	WES-TWA	5 ppm 21 mg/m^3	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
	Remarks	Skin Absorption		

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
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: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Splash contact
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 62 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 respirator with multi-purpose combination 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: clear, liquid
Colour: colourless
b) Odour
No data available
c) Odour Threshold
No data available
d) pH
No data available
e) Melting point/freezing point
Melting point/range: -35 °C - lit.
f) Initial boiling point and boiling range
83 °C - lit.
g) Flash point
13.0 °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: 16.2 %(V)
Lower explosion limit: 6.2 %(V)
k) Vapour pressure
33.3 hPa at 0 °C
86 hPa at 20 °C
312 hPa at 50 °C
l) Vapour density
no data available
m) Relative density
1.256 g/cm3 at 25 °C - lit.
n) Water solubility
8.69 g/l at 20 °C - slightly soluble
10.3 g/l at 56 °C
o) Partition coefficient: n-octanol/water
log Pow: 1.48 at 20 °C
p) Auto-ignition temperature
413.0 °C
q) Decomposition temperature
no data available
r) Viscosity
no data available

10. Stability and reactivity
10.1 Reactivity
no data available
10.2 Chemical stability
no data available
10.3 Possibility of hazardous reactions
no data available
10.4 Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
no data available

11. Toxicological information
11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - rat - 670.0 mg/kg
LC50 Inhalation - rat - 4 h - 7,758 mg/m^3
LD50 Dermal - rabbit - 2,800 mg/kg
Remarks: Eye: Lacrimation.
Skin corrosion/irritation
Skin - rabbit - irritating - 72 h - Draize Test
Serious eye damage/eye irritation
Eyes - rabbit - Moderate eye irritation
Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
Laboratory experiments have shown mutagenic effects.
Genotoxicity in vitro - Ames test - S. typhimurium - positive
Carcinogenicity
Carcinogenicity - rat - Oral
Tumorigenic: Carcinogenic by RTECS criteria. Gastrointestinal: Tumors. Skin and Appendages: Other: Tumors. This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.
Possible human carcinogen
IARC: 2B - Group 2B: Possibly carcinogenic to humans
Reproductive toxicity
Reproductive toxicity - rat - Inhalation
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Specific target organ toxicity - single exposure
May cause respiratory irritation.
Specific target organ toxicity - repeated exposure
no data available
Aspiration hazard
no data available
Potential health effects
Inhalation
Toxic if inhaled. Causes respiratory tract irritation.
Ingestion
Harmful if swallowed.
Skin
May be harmful if absorbed through skin. Causes skin irritation.
Eyes
Causes serious eye irritation.
Signs and Symptoms of Exposure
Acts as a simple asphyxiant by displacing air, anaesthetic effects, difficulty in breathing, headache, dizziness. Prolonged or repeated contact with skin may cause defatting, dermatitis. Contact with eyes can cause redness, blurred vision and provokes tears. Effects due to ingestion may include gastrointestinal discomfort, central nervous system depression, paraesthesia. Drowsiness, convulsions, conjunctivitis, pulmonary oedema. Effects may be delayed. Irregular breathing. Stomach/intestinal disorders, nausea, vomiting, increased liver enzymes, weakness, heavy or prolonged skin exposure may result in the absorption of harmful amounts of material.
Additional Information
RTECS: KI0525000

12. Ecological information
12.1 Toxicity
Toxicity to fish
LC50 - Oncorhynchus mykiss (rainbow trout) - 225.00 mg/l - 96 h
NOEC - Cyprinodon variegatus (sheepshead minnow) - 130 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 540.00 mg/l - 24 h Immobilization
EC50 - Daphnia magna (Water flea) - 160 mg/l - 48 h
12.2 Persistence and degradability
Biodegradability

Biotic/Aerobic - Exposure time 21 d Result: < 20 % - Not readily biodegradable. Remarks: not applicable
12.3 Bioaccumulative potential
Bioaccumulation Lepomis macrochirus (Bluegill) - 14 d -95.6 µg/l
Bioconcentration factor (BCF): 2
12.4 Mobility in soil
no data available
12.5 Results of PBT and vPvB assessment
no data available
12.6 Other adverse effects
no data available

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**	1184	1184	1184
14.2	**UN Proper Shipping name**	ETHYLENE DICHLORIDE	ETHYLENE DICHLORIDE	Ethylene dichloride
14.3	**Transport Hazard Class**	3 (6.1)	3 (6.1)	3 (6.1)
14.4	**Packaging group**	II	II	II
14.5	**Environmental Hazards**	No	No	No
14.6	**Special precautions for user**	No data available		

15. Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulatory information
HSNO Approval Code: HSR001152
HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard
2006 Tracking Required: not required
Approved Handler Cert.: 6.1C

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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