



AIR LIQUIDE

SAFETY DATA SHEET

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Ethylene (refrigerated)

SDS_055R_CLP



2.1 : flammable gas.

Danger



1 Identification of the substance/mixture and of the company/undertaking

Product identifier
Trade name : Ethylene (refrigerated)
SDS Nr : SDS_055R_CLP
Chemical description : Ethylene (refrigerated)
CAS No :000074-85-1
EC No :200-815-3
Index No :601-010-00-3
Chemical formula : C₂H₄
Registration-No. : Registration deadline not expired.
Use : Industrial and professional. Perform risk assessment prior to use.
Company identification : Air Liquide UK Ltd.
Station Road
Coleshill
Birmingham B46 1JY United Kingdom
E-Mail address (competent person): : David Hopper
Emergency telephone number : 01675 462695

2 Hazards identification

Classification of the substance or mixture

**Hazard Class and Category Code
Regulation EC 1272/2008 (CLP)**

- **Physical hazards** : Flammable gases - Category 1 - Danger (H220)
Gases under pressure - Refrigerated liquefied gas - Warning (H281)
- **Health hazards** : Specific Target Organ Toxicity - Single exposure - Narcotic effects - Category 3 -
Warning (H336)

Classification EC 67/548 or EC 1999/45 : F+; R12
R67

Label elements

Labelling Regulation EC 1272/2008 (CLP)

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2 Hazards identification (continued)

• Hazard pictograms



• Hazard pictograms code

: GHS02 - GHS08 - GHS04

• Signal word

: Danger

• Hazard statements

: H220 : Extremely flammable gas.
H281 : Contains refrigerated gas; may cause cryogenic burns or injury.
H336 : May cause drowsiness or dizziness.

• Precautionary statements

- Prevention

: P210 : Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P282 : Wear cold insulating gloves/face shield/eye protection.

- Response

: P304+P340+P315 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice / attention.
P336+P315 : Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice / attention.
P377 : Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 : Eliminate all ignition sources if safe to do so.

- Storage

: P405 : Store locked up.
P403 : Store in a well-ventilated place.

Labelling EC 67/548 or EC 1999/45

Symbol(s)

: F+ : Extremely flammable



R Phrase(s)

: R12 : Extremely flammable.
R67 : Vapours may cause drowsiness and dizziness.

S Phrase(s)

: S9 : Keep container in a well-ventilated place.
S16 : Keep away from sources of ignition - No smoking.
S33 : Take precautionary measures against static discharges.
S46 : If swallowed seek medical advice immediately and show this container or label.Other hazards

Other hazards

: None.

3 Composition/information on ingredients

Substance / Preparation

: Substance.

Substance name	Contents	CAS No	EC No	Index No	Registration no	Classification
Ethylene (refrigerated)	100 %	74-85-1	200-815-3	601-010-00-3	NOTE 2	F+; R12 R67 ----- Flam. Gas 1 (H220) Flam. Gas 1 (H220) STOT RE 3 (H336) Press. Gas (H281)

Contains no other components or impurities which will influence the classification of the product.

Note 1: Listed in Annex IV / V REACH, exempted from registration.

Note 2: Registration deadline not expired.

Full text of R-phrases see chapter 16

Ethylene (refrigerated)**SDS_055R_CLP****4 First aid measures****First aid measures****- Inhalation**

: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.
Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

- Skin/eye contact

: Immediately flush eyes thoroughly with water for at least 15 minutes.
In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

- Ingestion

: Ingestion is not considered a potential route of exposure.

5 Fire-fighting measures**Specific hazards**

: Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products

: Incomplete combustion may form carbon monoxide.

Extinguishing media**- Suitable extinguishing media**

: All known extinguishants can be used.

Specific methods

: If possible, stop flow of product.
Move away from the container and cool with water from a protected position.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.

Special protective equipment for fire fighters

: In confined space use self-contained breathing apparatus.

6 Accidental release measures**Personal precautions**

: Use protective clothing.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Evacuate area.
Ensure adequate air ventilation.
Eliminate ignition sources.

Environmental precautions

: Try to stop release.

Clean up methods

: Ventilate area.

7 Handling and storage**Handling**

: Take precautionary measures against static discharge.
Suck back of water into the container must be prevented.
Purge air from system before introducing gas.
Do not allow backfeed into the container.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Keep away from ignition sources (including static discharges).
Refer to supplier's container handling instructions.

Storage

: Segregate from oxidant gases and other oxidants in store.
Keep container below 50°C in a well ventilated place.



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8 Exposure controls/personal protection

Personal protection : Ensure adequate ventilation.
Protect eyes, face and skin from liquid splashes.
Do not smoke while handling product.

9 Physical and chemical properties

Physical state at 20 °C : Gas.
Colour : Colourless gas.
Odour : Sweetish. Poor warning properties at low concentrations.
Molecular weight : 28
Melting point [°C] : -169
Boiling point [°C] : -103
Critical temperature [°C] : 9.5
Vapour pressure [20°C] : Not applicable.
Relative density, gas (air=1) : 0.975
Relative density, liquid (water=1) : 0.57
Solubility in water [vol/vol] : No reliable data available.
Flammability range [vol% in air] : 2.4 to 34
Auto-ignition temperature [°C] : 425

10 Stability and reactivity

Stability and reactivity : May decompose violently at high temperature and/or pressure or in the presence of a catalyst.
Can form explosive mixture with air.
Liquid spillages can cause embrittlement of structural materials.
May react violently with oxidants.

Hazardous decomposition products : None.

11 Toxicological information

Toxicity information : No known toxicological effects from this product.

12 Ecological information

Ecological effects information : Can cause frost damage to vegetation.

13 Disposal considerations

General : Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.
Do not discharge into any place where its accumulation could be dangerous.
Contact supplier if guidance is required.



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14 Transport information

UN number : 1038

• Labelling ADR, IMDG, IATA



: 2.1 : flammable gas.

Land transport

ADR/RID

H.I. nr : 223

UN proper shipping name : ETHYLENE, REFRIGERATED LIQUID

Transport hazard class(es) : 2

- ADR/RID Classification code : 3 F

- Packing Instruction(s) - General : P203

- Tunnel Restriction : B/D Tank carriage: Passage forbidden through tunnels of category B, C, D and E;
Other carriage: Passage forbidden through tunnels of category D and ESea transport

- IMO-IMDG code

• Proper shipping name : ETHYLENE, REFRIGERATED LIQUID

• Class : 2.1

- IMO Packing group : P203

- Emergency Schedule (EmS) - Fire : F-D

- Emergency Schedule (EmS) - Spillage : S-U

- Instructions - Packing : P203

Air transport

- ICAO/IATA

- Proper shipping name : ETHYLENE, REFRIGERATED LIQUID

• Class : 2.1

• Passenger and Cargo Aircraft :

• Cargo Aircraft only :

Avoid transport on vehicles where the load space is not separated from the driver's compartment.

Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers :

- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.



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15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

Seveso regulation 96/82/EC : Listed

16 Other information

Contact with liquid may cause cold burns/frostbite.

Ensure operators understand the flammability hazard.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

List of full text of R-phrases in section 3. : R12 : Extremely flammable.
R67 : Vapours may cause drowsiness and dizziness.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

DISCLAIMER OF LIABILITY : Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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