

Safety Data Sheet

Product :

Phosgene

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MSDS Nr : 331-00-0002BOC(U)

Version : 1.03

Date : 17/08/2000

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name	Phosgene
Chemical formula	COCl ₂
Company identification	see heading and/or footer
Emergency phone numbers	see heading and/or footer

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation	Substance.
Components/Impurities	Contains no other components or impurities which will influence the classification of the product.
CAS Nr	00075-44-5
EC Nr (from EINECS)	200-870-3

3 HAZARDS IDENTIFICATION

Hazards identification	Liquefied gas Very toxic by inhalation. Corrosive to eyes, respiratory system and skin.
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4 FIRST AID MEASURES

Inhalation	Very toxic by inhalation. Prolonged exposure to small concentrations may result in pulmonary oedema. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. Delayed adverse effects possible.
Skin/eye contact	May cause chemical burns to skin and cornea (with temporary disturbance to vision) Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contaminated clothing. Drench affected area with water for at least 15 minutes Obtain medical assistance
Ingestion	Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards	Non flammable Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	None that are more toxic than the product itself.
Suitable extinguishing media	All known extinguishants can be used.

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Specific methods

If possible, stop flow of product.

Move away from the container and cool with water from a protected position.

Special protective equipment for fire fighters

Use self-contained breathing apparatus and chemically protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area.

Use self-contained breathing apparatus and chemically protective clothing.

Ensure adequate air ventilation.

Environmental precautions

Try to stop release.

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Reduce vapour with fog or fine water spray.

Clean up methods

Ventilate area.

Wash contaminated equipment or sites of leaks with copious quantities of water.

Hose down area with water.

7 HANDLING AND STORAGE

Handling and storage

Suck back of water into the container must be prevented.

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.

Refer to supplier's container handling instructions.

Keep container below 50°C in a well ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value for country

Great Britain: LTEL: 0.02 ppm; STEL: 0.06ppm (EH 40/97)

Germany: MAK: 0.1 ppm

France: VLE: 0.1 ppm

Personal protection

Ensure adequate ventilation.

Protect eyes, face and skin from liquid splashes.

Do not smoke while handling product.

Keep self contained breathing apparatus readily available for emergency use.

Keep suitable chemically resistant protective clothing readily available for emergency use.

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9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	99
Melting point	-128 °C
Boiling point	7.4 °C
Critical temperature	182 °C
Relative density, gas	3.5 (air=1)
Relative density, liquid	1.4 (water=1)
Vapour Pressure 20°C	1.6 bar
Solubility mg/l water	No reliable data available.
Appearance/Colour	Colourless gas
Odour	Musty hay
	Poor warning properties at low concentrations.
Flammability range	Non flammable.
Autoignition temperature	Not applicable
Other data	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and reactivity	Reacts with water to form corrosive acids. Reacts with most metals in the presence of moisture, liberating hydrogen, an extremely flammable gas. May react violently with alkalis.
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11 TOXICOLOGICAL INFORMATION

General	Severe corrosion to skin, eyes and respiratory tract at high concentrations. Pulmonary pathology after acute exposures showed bronchoconstriction, hyaline membrane formation, pulmonary oedema and emphysema. Damage to red blood cells (haemolytic poison).
LC50/1h (ppm)	5 ppm

12 ECOLOGICAL INFORMATION

General	May cause pH changes in aqueous ecological systems.
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13 DISPOSAL CONSIDERATIONS

General

Avoid discharge to atmosphere.

Do not discharge into any place where its accumulation could be dangerous.

Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction.

Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN Nr

1076

Class/Div

2.3

Subsidiary risk

8

ADR/RID Classification code

2TC

ADR/RID Hazard Nr

268

Labelling ADR

Label 2.3: toxic substance.

Label 8: corrosive substance.

Other transport information

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 they are firmly secured and:

- cylinder valve is closed and not leaking
- valve outlet cap nut or plug (where provided) is correctly fitted
- valve protection device (where provided) is correctly fitted
- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548

006-002-00-8.

EC Classification

T+;R26(C);R34

-Symbols

T+: Very toxic

Labelling of cylinders

-Symbols

Label 2.3: toxic substance.

Label 8: corrosive substance.

-Risk phrases

R26 Very toxic by inhalation.

R34 Cause burns (to eyes, respiratory system and skin).

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-Safety phrases

S1 Keep locked up.

S9 Keep container in well ventilated place.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing.

S37/39 Wear suitable gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the toxicity hazard.

Users of breathing apparatus must be trained.

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.

End of document.

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