

EPIGRAL LTD., UNIT-Dahej

MATERIAL SAFETY DATA SHEET	MSDS NO.:	REVISION DATE:	PAGE	EPIGRAL
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Epigral Finechem Ltd. urges the customers receiving this Material Safety Data Sheet (MSDS) to study it carefully to become aware of hazards, if any, of the product involved. In the interest of Safety, you should notify your employee, agent & contractors about the information on this sheet, furnish a copy of each of your customers for the product, and request your customers to inform their employees and customers as well.

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

Product identifiers

Product name : Chlorine
CAS-No. : 7782-50-5

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Synthesis of substances

Details of the supplier of the safety data sheet

Company : Epigral Limited
Plot No. CH1.CH2, Industrial Estate
Dahej, Taluka : Vagra
Bharuch-392 130
Gujarat
INDIA

Emergency Telephone Number : 91-6359605550

SECTION 2 : Hazards identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing gases (Category 1), H270
Gases under pressure (Compressed gas), H280
Acute toxicity, Inhalation (Category 3), H331
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Short-term (acute) aquatic hazard (Category 1), H400
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H270 May cause or intensify fire; oxidizer.

H280 Contains gas under pressure; may explode if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

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H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

Precautionary statement(s)

P220 Keep/Store away from clothing/ combustible materials.

P244 Keep reduction valves free from grease and oil.

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

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

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 + P376 In case of fire: Stop leak if safe to do so.

P391 Collect spillage.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : Cl₂

Molecular weight : 70.91 g/mol

CAS-No. : 7782-50-5

EC-No. : 231-959-5

Component	Classification	Concentration
Chlorine	Ox. Gas 1; Press. Gas Compr. Gas; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Aquatic Acute 1; H270, H280, H331, H315, H319, H335, H400	<= 99.9

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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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

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Fire fighting measures

Extinguishing media

Suitable extinguishing

media Dry powder Dry sand

Special hazards arising from the substance or mixture

Nature of decomposition products not known.

Advice for firefighters

Wear self-contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

NFPA

Health

4

Flammability

0

Reactivity

0

Physical Hazards

N/A

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequateVentilation. Evacuate personnel to safe areas.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Ventilate the area.

Reference to other sections

For disposal see section 13.

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SECTION 7: Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Contents under pressure.

Storage class (TRGS 510): 2A: Gases

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

Control parameters

Components with workplace control parameters

Component	CAS No.	Value	Control parameters	Basis
Chlorine	7782-50-5	TWA	0.1 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	respiratory tract irritation ,Airway hyper-reactivity Pulmonary edema 2018 Adoption Not classifiable as a human carcinogen		
		STEL	0.4 ppm	USA. ACGIH Threshold Limit Values (TLV)
		respiratory tract irritation Airway hyper-reactivity Pulmonary edema 2018 Adoption Not classifiable as a human carcinogen		
		C	0.5 ppm 1.45 mg/m3	USA. NIOSH Recommended Exposure Limits
		15 minute ceiling value		
		c	1 ppm 3 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate. Ceiling limit is to be determined from breathing-zone air samples.		
		STEL	1 ppm 3 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	0.5 ppm	California permissible exposure

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			1.5 mg/m ³	limits for chemical contaminants (Title 8, Article 107)
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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 : Fluorinated rubber

Minimum layer thickness : 0.7 mm

Break through time : 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, 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 (US) or type AXBEK (EN 14387) 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

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

- a) Appearance Form : Compressed gas
Colour : yellow
- b) Odour pungent
- c) Odour Threshold No data available
- d) pH 1.8 at 6.4 g/l at 20 °C (68 °F)
- e) Melting point/freezing point Melting point/range: -101 °C (-150 °F) - lit.
- f) Initial boiling point and boiling range -34 °C -29 °F - lit.
- g) Flash point () Not applicable
- h) Evaporation rate No data available
- i) Flammability (solid,gas) No data available
- j) Upper/lower flammability or explosive limits No data available
- k) Vapour pressure 6,399 hPa at 20 °C (68 °F)
- l) Vapour density 2.44 - (Air = 1.0)
- m) Relative density 1.563 g/cm³ at -34 °C (-29 °F)
- n) Water solubility ca.10 g/l at 20 °C (68 °F)
- o) Partition coefficient:n-octanol/water No data available
- p) Auto-ignition temperature No data available
- q) Decomposition temperature No data available
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties The substance or mixture is classified as oxidizing with the category 1.

Other safety information

Relative vapour density 2.44 - (Air = 1.0)

SECTION 10: Stability and reactivity

- Reactivity** No data available
- Chemical stability** Stable under recommended storage conditions.
- Possibility of hazardous reactions** No data available
- Conditions to avoid** No data available
- Incompatible materials** Alcohols
- Hazardous decomposition products**
- Hazardous decomposition products formed under fire conditions. - Nature of decomposition Products not known. Other decomposition products - No data available
- In the event of fire: see section 5

SECTION 11: Toxicological information

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11.1 Information on toxicological effects

Acute toxicity LC50 Inhalation - Rat - 1 h - 293 ppm

Dermal: :No data available

Skin corrosion/irritation : No data available

Serious eye damage/eye irritation : No data available

Respiratory or skin sensitisation :No data available

Germ cell mutagenicity Human lymphocyte Cytogenetic analysis

Mouse

sperm

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

Additional Information

RTECS: FO2100000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

SECTION 12: Ecological information

Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.014 mg/l - 96 h

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

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Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number : 1017 Class: 2.3 (5.1, 8)
Proper shipping name : Chlorine
Reportable Quantity (RQ) : 10 lbs
Poison Inhalation Hazard : Hazard Zone B

IMDG

UN number : 1017 Class: 2.3 (5.1, 8) EMS-No: F-C, S-U
Proper shipping name : CHLORINE

Marine pollutant : yes

Marine pollutant : yes

IATA

UN number : 1017 Class: 2.3 (5.1, 8)
Proper shipping name : Chlorine
IATA Passenger : Not permitted for transport
IATA Cargo : Not permitted for transport

SECTION 15: Regulatory information

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III,

Section 302 :Chlorine

CAS-No.7782-50-5

Revision Date : 2020-11-01

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III,

Section 313 :Chlorine

CAS-No. 7782-50-5

Revision Date 2020-11-01

SARA 311/312 Hazards

Sudden Release of Pressure Hazard, Reactivity Hazard, Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Chlorine CAS-No. 7782-50-5

Revision Date 2020-11-01

SECTION 16: Other information: --

MANUFACTURERS / SUPPLIERS DATA

Name of the firm	EPIGRAL LTD.,	Contact Person in Emergency:
Mailing Address	CH1/CH2,GIDC Industrial Estate,Dahej Dist.: Bharuch, Gujarat (INDIA)	UNITE HEAD
Telephone Nos.	Fact.: 91-9909995940	

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Name of the firm	EPIGRAL LTD.,	Contact Person in Emergency:
		Rev No : 04 (31/08/2023)

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