Chlorine

Safety Data Sheet

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SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Chlorine
CAS-No.	:	7782-50-5
Product code	:	SG-1001-01518

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Test gas/Calibration gas.

1.3. Supplier

Air Liquide USA LLC and its affiliates
9811 Katy Freeway, Suite 100
Houston, TX, 77024
USA
T 1-800-819-1704
www.us.airliquide.com

1.4. Emergency telephone number

Emergency number	:	Chemtrec: 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

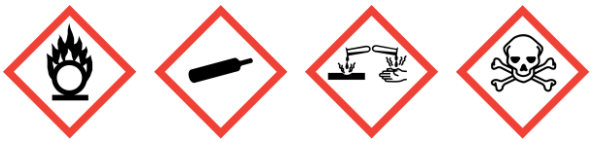
Oxidizing gases Category 1	H270	May cause or intensify fire; oxidizer
Gases under pressure Compressed gas	H280	Contains gas under pressure; may explode if heated
Acute toxicity (inhalation:gas) Category 2	H330	Fatal if inhaled
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) :
H270 - May cause or intensify fire; oxidizer
H280 - Contains gas under pressure; may explode if heated
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H330 - Fatal if inhaled
CGA-HG22 - Corrosive to the respiratory tract

Precautionary statements (GHS US) : P202 - Do not handle until all safety precautions have been read and understood.
P220 - Keep/Store away from Combustible materials, clothing
P260 - Do not breathe gas.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear eye protection, face protection, protective gloves, protective clothing.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 - Store in a well-ventilated place.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations
P244 - Keep reduction valves/valves and fittings free from oil and grease.
P284 - Wear respiratory protection.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P370+P376 - In case of fire: Stop leak if safe to do so.
P307+P311 - If exposed: Call a poison center/doctor.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C/125 °F
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG06 - Close valve after each use and when empty
CGA-PG10 - Use only with equipment rated for cylinder pressure
CGA-PG14 - Approach suspected leak area with caution
CGA-PG18 - When returning cylinder, install leak tight valve outlet cap or plug
CGA-PG20 - Use only with equipment of compatible materials of construction and rated for cylinder pressure
CGA-PG21 - Open valve slowly
CGA-PG22 - Use only with equipment cleaned for oxygen service

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
Chlorine (Main constituent)	CAS-No.: 7782-50-5	> 99	Ox. Gas 1, H270 Press. Gas (Comp.), H280 Acute Tox. 2 (Inhalation:gas), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. Specific treatment is urgent (see supplemental first aid instruction on this label). Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a poison center or doctor/physician.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. Rinse cautiously with water for several minutes. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure. Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Fatal if inhaled.

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : Fatal if inhaled. Corrosive to the respiratory tract. Fatal if inhaled. May cause respiratory irritation.

Symptoms/effects after skin contact : Causes severe skin burns and eye damage.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/effects upon intravenous administration : Not known.

Most important symptoms and effects, both acute and delayed : May cause irritation to cornea (with temporary disturbance to vision). May cause irritation to skin. Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea. Refer to section 11.

Chronic symptoms : Adverse effects not expected from this product.

4.3. Immediate medical attention and special treatment, if necessary

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use water jet to extinguish. Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : The product is not flammable.

Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Hazardous combustion products : None.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Standard protective clothing and equipment (e.g, Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment consistent with the site emergency plan.

Emergency procedures : Evacuate personnel to a safe area. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Standard protective clothing and equipment (e.g, Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.

Emergency procedures : Evacuate and limit access. Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Try to stop release if without risk. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Try to stop release if without risk.

Methods for cleaning up : Dispose of contents/container in accordance with local/regional/national/international regulations. Store away from other materials.

Methods and material for containment and cleaning up : Hose down area with water. Wash contaminated equipment or sites of leaks with copious quantities of water.

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Pressurized container: Do not pierce or burn, even after use. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty.

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Keep reduction valves free from grease and oil. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact during pregnancy/while nursing. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Do not expose to temperatures exceeding 52 °C/ 125 °F. Protect containers from physical damage; do not drag, roll, slide or drop. Store in well ventilated area. Store locked up. Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.

Incompatible products : None known. Strong bases. Strong acids.

Incompatible materials : Flammable materials. Combustible materials. Reducing agents. Sources of ignition. Direct sunlight.

Conditions for safe storage, including any incompatibilities : Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Segregate from flammable gases and other flammable materials in store. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

Storage area : Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chlorine (7782-50-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	0.1 ppm
ACGIH OEL STEL [ppm]	0.4 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (Ceiling)	3 mg/m³
OSHA PEL C [ppm]	1 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	10 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (Ceiling)	1.45 mg/m³
NIOSH REL C [ppm]	0.5 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure exposure is below occupational exposure limits (where available). Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Consider the use of a work permit system e.g. for maintenance activities. Alarm detectors should be used when toxic gases may be released.

Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Hand protection:
Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand protection. Wear chemically resistant protective gloves when making or breaking process connections. Wear protective gloves.

Eye protection:
Wear safety glasses with side shields. Chemical goggles or face shield. 29 CFR 1910.133: Eye and Face Protection. Wear goggles and a face shield when transfilling or breaking transfer connections.

Skin and body protection:
Wear suitable protective clothing, e.g. lab coats, coveralls or flame resistant clothing. Wear suitable protective clothing

Respiratory protection:
Wear respiratory protection. Consult respirator supplier´s product information for the selection of the appropriate respiratory protection. Wear a respirator when performing non-routine tasks not limited to line breaking or sampling. Wear a respirator during routine operations if determined to be necessary during a process-specific review. Consult respirator suppliers' product information or their representatives for the selection of the appropriate respirator. See Sections 5 & 6.

Thermal hazard protection:
None necessary during normal and routine operations.

Other information:
Wear safety shoes while handling containers. Keep suitable chemically resistant protective clothing readily available for emergency use. 29 CFR 1910.136: Foot Protection. Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Greenish-yellow gas.
Color	:	Greenish gas.
Odor	:	Pungent.
Odor threshold	:	Odor threshold is subjective and inadequate to warn for overexposure 0.23 mg/m³ (Dixon and Ikels)
pH	:	If dissolved in water pH-value will be affected.
Melting point	:	-101 °C
Freezing point	:	No data available
Boiling point	:	-32.95 °C
Critical temperature	:	144.75 °C
Critical pressure	:	7991 kPa
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	See Section 2.1 and 2.2 Non flammable.
Vapor pressure	:	3692.287318698 mbar
Relative vapor density at 20 °C	:	2.473
Relative density	:	1.6
Density	:	2.7 kg/m³ (at 50 °C)
Molecular mass	:	70.906 g/mol
Relative gas density	:	Heavier than air
Solubility	:	Water: 8620 mg/l
Partition coefficient n-octanol/water (Log Pow)	:	Not applicable for inorganic products.
Auto-ignition temperature	:	Not applicable - non flammable
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No reliable data available.
Viscosity, dynamic	:	No reliable data available.
Explosion limits	:	Not applicable - non flammable
Explosive properties	:	Not applicable (non-flammable gas).
Oxidizing properties	:	Not combustible but enhances combustion of other substances. May cause or intensify fire; oxidizer.
Ci	:	0.7

9.2. Other information

Additional information	:	Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with water to form corrosive acids. Corrosive vapors. Thermal decomposition generates :

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

May react violently with reducing agents. Can form explosive mixtures with flammable materials. Not established.

10.4. Conditions to avoid

Moisture. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Combustible materials. Flammable materials. Reducing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Fatal if inhaled.

Chlorine (7782-50-5)	
LD50 oral rat	6800 mg/kg
LC50 Inhalation - Rat [ppm]	146.5 ppm/4h
ATE US (gases)	146.5 ppmV/4h
ATE US (vapors)	0.86 mg/l/4h
ATE US (dust, mist)	0.86 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns.
pH: If dissolved in water pH-value will be affected.
Serious eye damage/irritation : Causes serious eye damage.
pH: If dissolved in water pH-value will be affected.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No reliable data available.
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Fatal if inhaled.
Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation	:	Fatal if inhaled. Corrosive to the respiratory tract. Fatal if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	:	Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	:	Causes serious eye damage.
Symptoms/effects after ingestion	:	Ingestion is not considered a potential route of exposure.
Symptoms/effects upon intravenous administration	:	Not known.
Most important symptoms and effects, both acute and delayed	:	May cause irritation to cornea (with temporary disturbance to vision). May cause irritation to skin. Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea. Refer to section 11.
Chronic symptoms	:	Adverse effects not expected from this product.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Chlorine (7782-50-5)	
LC50 - Fish [1]	0.44 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 - Crustacea [1]	0.017 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	0.014 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
LC50-96 h - fish [mg/l]	0.032 mg/l
EC50 48h - Daphnia magna [mg/l]	0.141 mg/l
EC50 72h Algae [mg/l]	0.001 – 0.01 mg/l

12.2. Persistence and degradability

Chlorine (7782-50-5)	
Persistence and degradability	Not applicable for inorganic products .

12.3. Bioaccumulative potential

Chlorine (7782-50-5)	
BCF - Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	Not applicable for inorganic products.
Bioaccumulative potential	No data available.

12.4. Mobility in soil

Chlorine (7782-50-5)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

12.5. Other adverse effects

Other adverse effects	:	May cause pH changes in aqueous ecological systems.
Effect on the ozone layer	:	No effect on the ozone layer.
Effect on global warming	:	No known effects from this product.
Other information	:	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded.

Product/Packaging disposal recommendations : Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at www.cganet.com for more guidance on suitable disposal methods. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with local/regional/national/international regulations.

Ecology - waste materials : Hazardous waste due to toxicity. Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN1017
UN-No. (TDG) : UN1017
UN-No. (IMDG) : 1017
UN-No. (IATA) : Forbidden

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Chlorine
Proper Shipping Name : CHLORINE
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 2.3 (5.1, 8)
Hazard labels (DOT) : 2.3, 5.1, 8

TDG

Transport hazard class(es) (TDG) : 2.3 (5.1, 8)
Hazard labels (TDG) : 2.3, 5.1, 8

IMDG

Transport hazard class(es) (IMDG) : 2

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Marine pollutant : Yes (IMDG only)

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : 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 there is adequate ventilation, - 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.

DOT

UN-No.(DOT) : UN1017

DOT Special Provisions (49 CFR 172.102) : 2 - This material is poisonous by inhalation (see 171.8 of this subchapter) in Hazard Zone B (see 173.116(a) or 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
B9 - Bottom outlets are not authorized.
B14 - Each bulk packaging, except a tank car or a multi-unit-tank car tank, must be insulated with an insulating material so that the overall thermal conductance at 15.5 C (60 F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet.
N86 - UN pressure receptacles made of aluminum alloy are not authorized.
T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
TP19 - The calculated wall thickness must be increased by 3 mm at the time of construction. Wall thickness must be verified ultrasonically at intervals midway between periodic hydraulic tests (every 2.5 years). The portable tank must not be used if the wall thickness is less than that prescribed by the applicable T code in Column (7) of the Table for this material.

DOT Packaging Exceptions (49 CFR 173.xxx) : None
DOT Packaging Non Bulk (49 CFR 173.xxx) : 304
DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : Forbidden
DOT Vessel Stowage Location : D - The material must be stowed ‘‘on deck only’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 40 - Stow ‘‘clear of living quarters’’,51 - Stow ‘‘separated from’’ acetylene,55 - Stow ‘‘separated from’’ ammonia,62 - Stow ‘‘separated from’’ diborane,68 - Stow ‘‘separated from’’ hydrogen,89 - Segregation same as for oxidizers,90 - Stow ‘‘separated from’’ radioactive materials

TDG

UN-No. (TDG) : UN1017

TDG Special Provisions : 23 - (1) A person must not import, offer for transport, handle or transport these dangerous goods unless
(a) they are contained in a means of containment that is marked in accordance with section 4.23, or, for UN1005, ANHYDROUS AMMONIA, in a large means of containment, in accordance with section 4.18.2; and
(b) they are accompanied by a shipping document that complies with subparagraph 3.5(1)(c)(vii).
(2) This special provision does not apply to a person who transports these dangerous goods in accordance with an exemption set out in section 1.15, 1.17, 1.17.1 or 1.24 of Part 1 (Coming Into Force, Repeal, Interpretation, General Provisions and Special Cases).

ERAP Index : 500

Explosive Limit and Limited Quantity Index : 0

Excepted quantities (TDG) : E0

Passenger Carrying Ship Index : Forbidden

Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : Forbidden

Emergency Response Guide (ERG) Number : 124;173

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Chlorine (7782-50-5)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	10 lb
Section 302 EPCRA Reportable Quantity (RQ)	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb

Commercial status of components according to the United States Environmental Protection Agency’s Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Chlorine	7782-50-5	Present	Active	

15.2. International regulations

CANADA

Chlorine (7782-50-5)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Chlorine (7782-50-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Chlorine (7782-50-5)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Poisonous and Deleterious Substances Control Law Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Chlorine (7782-50-5)	
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 10/11/2021

Other information : None. This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases	
H270	May cause or intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation

Safety Data Sheet (SDS), USA

This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide USA LLC and its affiliates' knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.