



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • Chlorine

CAS Number • 7782-50-5

EC Number • 231-959-5

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

Relevant identified use(s) • Used in water treatment as a disinfectant and oxidizer; production of organic and inorganic chemicals; bleaching of paper, textiles, and fabrics.

1.3 Details of the supplier of the safety data sheet

Manufacturer • Westlake Vinyls Company, LP
P.O. Box 228
36045 Highway 30 Geismar, LA 70734
United States
www.westlake.com

Telephone (General) • 225-673-0651

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - Chemtrec - Transportation emergency

Section 2: Hazards Identification

HMIS Rating:	Health: 3	Fire: 0	Reactivity: 0	PPE: X
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EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP

- Oxidizing Gases 1 - H270
- Compressed Gas - H280
- Skin Irritation 2 - H315
- Eye Irritation 2 - H319
- Acute Toxicity Inhalation 3 - H331
- Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
- Hazardous to the aquatic environment Acute 1 - H400

DSD/DPD

- Oxidizing (O)
- Toxic (T)
- Irritant (Xi)
- Dangerous to the Environment (N)
- R8, R23, R36/37/38, R50

2.2 Label Elements

CLP

DANGER



- Hazard statements**
- 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
 - H335 - May cause respiratory irritation
 - H400 - Very toxic to aquatic life

Precautionary statements

- Prevention**
- P220 - Keep/Store away from clothing and other combustible materials.
 - P244 - Keep reduction valves free from grease and oil.
 - P261 - Avoid breathing gas.
 - P264 - Wash thoroughly after handling.
 - P271 - Use only outdoors or in a well-ventilated area.
 - P273 - Avoid release to the environment.
 - P280 - Wear eye/face protection , .
 - P280 - Wear protective gloves .
- Response**
- P370+P376 - In case of fire: Stop leak if safe to do so.
 - P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P311 - Call a POISON CENTER or doctor/physician.
 - P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
 - P362 - Take off contaminated clothing and wash before reuse.
 - P332+P313 - If skin irritation occurs: Get medical advice/attention.
 - P321 - Specific treatment, see supplemental first aid information.
 - P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P337+P313 - If eye irritation persists: Get medical advice/attention.
 - P391 - Collect spillage.
- Storage/Disposal**
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 - P410 - Protect from sunlight.
 - P405 - Store locked up.
 - P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



- Risk phrases**
- R8 - Contact with combustible material may cause fire.
 - R23 - Toxic by inhalation.
 - R36/37/38 - Irritating to eyes, respiratory system and skin.
 - R50 - Very toxic to aquatic organisms.

- Safety phrases**
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - S37 - Wear suitable gloves.
 - S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 - S57 - Use appropriate containment to avoid environmental contamination.

2.3 Other Hazards

- CLP**
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.
- DSD/DPD**
- This product is considered dangerous according to the European Directive 67/548/EEC.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Oxidizing Gases 1 - H270
 - Compressed Gas - H280
 - Skin Corrosion 1A - H314
 - Serious Eye Damage 1 - H318
 - Acute Toxicity Inhalation 2 - H330

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements**
- May cause or intensify fire; oxidizer - H270
 - Contains gas under pressure; may explode if heated - H280
 - Causes severe skin burns and eye damage. - H314
 - Causes serious eye damage - H318
 - Fatal if inhaled - H330

Precautionary statements

- Prevention**
- Keep/Store away from clothing and other combustible materials. - P220
 - Keep reduction valves free from grease and oil. - P244
 - Do not breathe gas. - P260
 - Wash thoroughly after handling. - P264
 - Use only outdoors or in a well-ventilated area. - P271
 - Wear protective gloves/protective clothing/eye protection/face protection. - P280
 - In case of inadequate ventilation wear respiratory protection. - P285
- Response**
- In case of fire: Stop leak if safe to do so. - P370+P376
 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
 - Specific treatment is urgent (see supplemental first aid instructions on this label). - P320
 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. - P303+P361+P353
 - Wash contaminated clothing before reuse. - P363

Specific treatment, see supplemental first aid information. - P321
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
 Immediately call a POISON CENTER or doctor/physician. - P310
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. - P301+P330+P331

Storage/Disposal • Store in a well-ventilated place. Keep container tightly closed. - P403+P233
 Protect from sunlight. - P410
 Store locked up. - P405
 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS • Compressed Gas - A
 Very Toxic - D1A
 Corrosive - E

2.2 Label elements

WHMIS



• Compressed Gas - A
 Very Toxic - D1A
 Corrosive - E

2.3 Other hazards

WHMIS • In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Chlorine	CAS:7782-50-5 EC Number:231-959-5 EU Index:017-001-00-7	> 99.5%	Inhalation-Rat LC50 • 293 ppm 1 Hour(s)	EU DSD/DPD: Annex VI, Table 3.2: T R23 Xi R36/37/38 N R50 EU CLP: Annex VI, Table 3.1: Ox. Gas 1, H270; Press. Gas - Comp., H280; Acute Tox. 3 *, H3331; Eye Irrit. 2, H319; STOT SE 3: Resp. Irrit., H335; Skin Irrit. 2, H315; Aquatic Acute 1, H400 OSHA HCS 2012: Press. Gas - Comp.; Ox. Gas 1; Eye Dam. 1; Skin Corr. 1A; Acute Tox. 2 (inhl)	NDA

3.2 Mixtures

- Material does not meet the criteria of a mixture in accordance with Regulation (EC) No 1272/2008.

Section 4 - First Aid Measures

4.1 Description of first aid measures

- Inhalation** • Move victim to fresh air. Administer oxygen if breathing is difficult. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give artificial respiration if victim is not breathing. Get medical attention immediately.
- Skin** • For minor skin contact, avoid spreading material on unaffected skin. Remove and isolate contaminated clothing. Wash skin with soap and water. Get medical attention immediately.
- Eye** • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get medical attention immediately.
- Ingestion** • Not an anticipated hazard.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to Physician** • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

- Suitable Extinguishing Media** • Water fog, dry chemical, foam, carbon dioxide.

- Unsuitable Extinguishing Media** • None known.

5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards** • Containers may explode when heated.
Ruptured cylinders may rocket.
Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
May ignite combustibles (wood, paper, oil, clothing, etc.)
Flammable gases and vapors can form explosive mixtures with chlorine. Chlorine gas is heavier than air and will collect in low-lying areas.
Chlorine will support combustion. It reacts readily with hydrocarbons, alcohols, ethers, and some metals, possibly with explosive violence. It will react with (burn) steel containers at temperatures above 450°F (232°C).
These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
Chlorine and water can be very corrosive. Corrosion of metal containers can make leaks worse.

- Hazardous Combustion Products** • No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY;

it is not effective in spill situations where direct contact with the substance is possible. Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
Move containers from fire area if you can do it without risk.
LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.
LARGE FIRES: Dike fire-control water for later disposal.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions** • Ventilate the area before entry. Do not walk through spilled material. Wear a self-contained breathing apparatus and appropriate Personal Protective Equipment (PPE) Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. If you have not donned special protective clothing approved for this material, do not expose yourself to any risk of this material touching you.
- Emergency Procedures** • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container. Ventilate closed spaces before entering.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures** • Stop leak if you can do it without risk.
Do not direct water at spill or source of leak.
If possible, turn leaking containers so that gas escapes rather than liquid.
Use water spray to reduce vapors or divert vapor cloud drift.
Avoid allowing water runoff to contact spilled material.
Dike to collect large liquid spills.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

- Handling** • Use only in well ventilated areas. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe gas, mist, vapors, spray. Do not get in eyes, on skin, or on clothing. Personnel near or handling chlorine should at all times, carry a NIOSH approved chemical cartridge type escape respirator and be trained in its use. High pressure gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Never, place a leaking container in water or spray leaking container with water. Toxic to aquatic life. Keep out of waterways. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

- Storage** • Keep container tightly closed. Store in a cool, dry, well-ventilated place. Keep away from heat and moisture. Moisture (more than 150 ppm or water) and chlorine can form hydrochloric and hypochlorous acids, which are corrosive. Do not store near combustible materials. Store cylinders upright on a level floor secured in position and protected from physical damage. Use corrosion resistant lighting and ventilation systems in the storage area. Keep cylinder valve cover on. Avoid storing cylinders for more than six months. Label empty containers.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Chlorine (7782-50-5)	Ceilings	Not established	0.5 ppm Ceiling (15 min); 1.45 mg/m ³ Ceiling (15 min)	1 ppm Ceiling; 3 mg/m ³ Ceiling
	STELs	1 ppm STEL	Not established	Not established
	TWAs	0.5 ppm TWA	Not established	Not established

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced. Use full- face piece respirators when concentrations are irritating to the eyes. A cartridge-type escape respirator should be carried at all times when handling chlorine for escape only in case of a spill or leak.

Eye/Face

- Wear chemical splash goggles and face shield.

Skin/Body

- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Some operations may require the use of an impervious full-body encapsulating suit and respiratory protection.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas (Liquid under pressure)	Appearance/Description	Greenish, yellow gas or amber liquid with a pungent bleach-like odor.
Color	Greenish yellow.	Odor	Pungent, bleach-like odor.
Odor Threshold	0.06 ppm		
General Properties			
Boiling Point	-34.6 C(-30.28 F)	Melting Point	-101 C(-149.8 F)
Decomposition Temperature	Data lacking	pH	Not relevant
Specific Gravity/Relative Density	1.457 Water=1 @ 0 C(32 F)	Water Solubility	Slightly Soluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		

Volatility			
Vapor Pressure	73 psia @ 50 F(10 C)	Vapor Density	2.5 Air=1
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- Oxidizer, may accelerate combustion and cause fire in combination with flammable or combustible substances. Extremely reactive with various materials. Chlorine combined with moisture even in small amounts may form corrosive substances.

10.2 Chemical stability

- Stable under recommended storage and handling conditions.

10.3 Possibility of hazardous reactions

- Under normal conditions of storage and use, hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat. Incompatible materials.

10.5 Incompatible materials

- Chlorine is extremely reactive. Liquid or gaseous chlorine can react violently with many combustible materials and other chemicals, including water. Metal halides, carbon, finely divided metals and sulfides can accelerate the rate of chlorine reactions. Hydrocarbon gases, e.g., methane, acetylene, ethylene or ethane, can react explosively if initiated by sunlight or a catalyst. Liquid or solid hydrocarbons, e.g., natural or synthetic rubbers, naphtha, turpentine, gasoline, fuel gas, lubricating oils, greases or waxes, can react violently. Metals, e.g., finely powdered aluminum, brass, copper, manganese, tin, steel and iron, can react vigorously or explosively with chlorine. Nitrogen compounds, e.g., ammonia and other nitrogen compounds, can react with chlorine to form highly explosive nitrogen trichloride. Non-metals such as phosphorous, boron, activated carbon and silicon can ignite on contact with gaseous chlorine at room temperature. Certain concentrations of chlorine-hydrogen can explode by spark ignition. Chlorine is strongly corrosive to most metals in the presence of moisture. Copper may burn spontaneously. Chlorine reacts with most metals at high temperatures. Titanium will burn at ambient temperature in the presence of dry chlorine.

10.6 Hazardous decomposition products

- Moisture (more than 150 ppm or water) and chlorine can form hydrochloric and hypochlorous acids, which are corrosive.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Chlorine (> 99.5%)	7782-50-5	Acute Toxicity: Inhalation-Rat LC50 • 293 ppm 1 Hour(s); Inhalation-Rat TDLo • 1330 ppm 15 Minute(s); <i>Lungs, Thorax, or Respiration:</i> Fibrosis (interstitial); Lungs, Thorax, or Respiration:Acute pulmonary edema; Lungs, Thorax, or Respiration:Pleural thickening; Multi-dose Toxicity: Inhalation-Rat TCLo • 26 mg/m ³ 6 Hour(s) 6 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Structural or functional change in trachea or bronchi;</i>

	Mutagen: Cytogenetic analysis • Human • Lymphocyte (Somatic cell) • 20 ppm; Sperm Morphology • Ingestion/Oral-Mouse • 20 mg/kg 5 Day(s)-Continuous; Reproductive: Ingestion/Oral-Rat TDLo • 565 mg/kg (8W male/2W pre-3W post); <i>Reproductive Effects:Effects on Newborn:</i>Biochemical and metabolic; Tumorigen / Carcinogen: Ingestion/Oral-Rat TDLo • 5047 mg/kg 103 Week(s)-Continuous; <i>Tumorigenic:</i>Equivocal tumorigenic agent by RTECS criteria; Blood:Leukemia
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GHS Properties	Classification
Acute toxicity	EU/CLP •Acute Toxicity - Inhalation 3 OSHA HCS 2012 •Acute Toxicity - Inhalation 2
Aspiration Hazard	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
Carcinogenicity	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
Germ Cell Mutagenicity	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
Skin corrosion/Irritation	EU/CLP •Skin Irritation 2 OSHA HCS 2012 •Skin Corrosion 1A
Skin sensitization	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
STOT-RE	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
STOT-SE	EU/CLP •Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation OSHA HCS 2012 •Data lacking
Toxicity for Reproduction	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
Respiratory sensitization	EU/CLP •Data lacking OSHA HCS 2012 •Data lacking
Serious eye damage/Irritation	EU/CLP •Eye Irritation 2 OSHA HCS 2012 •Serious Eye Damage 1

Potential Health Effects

Inhalation

Acute (Immediate)

- Fatal if inhaled. May cause respiratory irritation. Bronchitis and accumulation of fluid in the lungs (chemical pneumonia) may occur hours after exposure to high levels.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

Acute (Immediate)

- Causes severe skin burns.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

Acute (Immediate)

- Causes serious eye damage. Direct contact with the eyes can cause irreversible damage, including blindness.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

- Acute (Immediate)**
 - May cause irreversible damage to mucous membranes.
- Chronic (Delayed)**
 - Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.
- Other**
- Chronic (Delayed)**
 - Prolonged or repeated overexposure may result in many or all of the effects reported for acute exposure (including pulmonary function effects).

Key to abbreviations

LC = Lethal Concentration

TC = Toxic Concentration

TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

Chlorine			7782-50-5		
Dosage	Species	Duration	Results	Exposure Conditions	Comments
= 5.1 mg/L	Algae: Giant Kelp	4 Day(s)	NDA	NDA	NDA
= 0.037 mg/L	Fish: Naked Goby	4 Day(s)	NDA	NDA	NDA

- Very toxic to aquatic life.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been carried out.

12.6 Other adverse effects

- Water polluting material. May be harmful to the environment if released in large quantities.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

- Product waste**
 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste**
 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1017	Chlorine	2.3,5.1,8	NDA	Marine Pollutant
TDG	UN1017	CHLORINE	8	NDA	Marine Pollutant
IMO/IMDG	UN1017	CHLORINE. Marine pollutant (chlorine)	2.3,5.1,8	NDA	NDA
IATA/ICAO	UN1017	Chlorine	2.3,5.1,8	NDA	NDA

14.6 Special precautions for user

- Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

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

- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute, Fire, Pressure(Sudden Release of)

Inventory						
Component	CAS	Australia AICS	Canada DSL	Canada NDSL	China	EU EINECS
Chlorine	7782-50-5	Yes	Yes	No	Yes	Yes
Inventory (Con't.)						
Component	CAS	EU ELNICS	Japan ENCS	Korea KECL	New Zealand	Philippines PICCS
Chlorine	7782-50-5	No	No	Yes	Yes	Yes
Inventory (Con't.)						
Component			CAS		TSCA	
Chlorine			7782-50-5		Yes	

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Chlorine 7782-50-5 A, D1A, E

Canada - WHMIS - Ingredient Disclosure List

•Chlorine 7782-50-5 1 %

Environment

Canada - CEPA - Priority Substances List

•Chlorine 7782-50-5 Not Listed

Europe

Other

EU - Hazardous Substances Restricted or Prohibited in Electrical Equipment (2011/65/EU) (RoHS)

•Chlorine 7782-50-5 Not Listed

EU - Inventory of Cosmetic Ingredients Directive (INCI) (76/768/EEC) - Other Ingredients

•Chlorine 7782-50-5 Not Listed

Japan

Environment

Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances

•Chlorine	7782-50-5	Not Listed
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Japan - Pollutant Release Transfer Register (PRTR) - Class 2 Substances

•Chlorine	7782-50-5	Not Listed
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Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

•Chlorine	7782-50-5	Not Listed
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Other Agency Information

Other

CONEG - Model Toxics in Packaging Legislation

•Chlorine	7782-50-5	Not Listed
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United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

•Chlorine	7782-50-5	1500 lb TQ
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U.S. - OSHA - Specifically Regulated Chemicals

•Chlorine	7782-50-5	Not Listed
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Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

•Chlorine	7782-50-5	
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U.S. - CAA (Clean Air Act) - Class I Ozone Depletors

•Chlorine	7782-50-5	Not Listed
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U.S. - CAA (Clean Air Act) - Class II Ozone Depletors

•Chlorine	7782-50-5	Not Listed
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U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•Chlorine	7782-50-5	10 lb final RQ; 4.54 kg final RQ
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U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

•Chlorine	7782-50-5	10 lb EPCRA RQ
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U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

•Chlorine	7782-50-5	100 lb TPQ
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U.S. - CERCLA/SARA - Section 313 - Emission Reporting

•Chlorine	7782-50-5	1.0 % de minimis concentration
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U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

•Chlorine	7782-50-5	Not Listed
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United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

•Chlorine	7782-50-5	Not Listed
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U.S. - California - Proposition 65 - Developmental Toxicity

•Chlorine	7782-50-5	Not Listed
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U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•Chlorine	7782-50-5	Not Listed
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U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•Chlorine	7782-50-5	Not Listed
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U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•Chlorine	7782-50-5	Not Listed
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U.S. - California - Proposition 65 - Reproductive Toxicity - Male

•Chlorine	7782-50-5	Not Listed
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15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date • 05/May/2015
Preparation Date • 05/May/2015

Key to abbreviations

NDA = No data available

Disclaimer/Statement of Liability

- As the conditions and methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of these products. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, expressed, or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable international, federal, state, and local laws and regulations regarding the use, storage, sale, transport or disposal of this material is the responsibility of the user.
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