SAFETY DATA SHEET (SDS)

Bromine

according to Hazardous Products Regulations (SOR/2015-17)

Revision date: 10/07/2020 (mm/dd/yyyy) **Revision number:** 4.1

SECTION 1 Identification

1.1. Product identifier

Product name: BASELINE Bromine
ACS Bromine

Product number(s): S021201
S051201

EU Index number: 035-001-00-5

Synonyms: Diatomic bromide; Dibromine; Elemental bromine; Molecular bromine

Chemical names: DE Brom; ES Bromo; FR Brome; IT Bromo; NL Broom

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

Identified uses: For laboratory use only. Not for drug, food, or household use.

1.3. Details of the supplier of the safety data sheet

Manufacturer:

SEASTAR CHEMICALS ULC
2061 Henry Avenue West, Sidney, BC V8L 5Z6 CANADA
1-250-655-5880

Email: SCI-QA&RegulatoryAffairs@seastarchemicals.com

1.4. Emergency telephone number

CAN (CANUTEC): 1-613-996-6666 (24-hour)

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification in accordance 29 CFR 1910 (OSHA HCS) / SOR/2015-17 (WHMIS HPR) / Regulation (EC) No 1272/2008
Acute toxicity, inhalation, category 2
Skin corrosion, category 1A
Aquatic toxicity, acute, category 1

2.2. Label elements

Pictograms:

Signal word: Danger

Hazard statements:
H330: Fatal if inhaled.
H314: Causes severe skin burns and eye damage.
H400: Very toxic to aquatic life.

Precautionary statements:
P260: Do not breathe fume/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER or 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.

2.3. Other hazards

For the full text of the H-Statement(s) and P-Statement(s) mentioned in this Section, see Section 16.

SECTION 3 Composition/Information on ingredients

3.1. Substances

Chemical name	Chemical formula	CAS №	EINECS №
Bromine	Br_2	7726-95-6	231-778-1

SECTION 4 First-aid measures

4.1. Description of first aid measures

Inhalation: Take proper precautions to ensure your own safety before attempting rescue (e.g., wear appropriate protective equipment, use the "buddy" system). Remove source of contamination or move victim to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure. If breathing has stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED) immediately. Avoid mouth-to-mouth contact by using mouth guards or shields. Quickly transport victim to an emergency care facility.

Skin: Avoid direct contact. Wear chemical protective clothing, if necessary. As quickly as possible, remove contaminated clothing, shoes, and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation persists, repeat flushing. DO NOT INTERRUPT FLUSHING. If necessary and it can be done safely, continue flushing during transport to emergency care facility. Quickly transport victim to an emergency care facility. Wash contaminated clothing before reuse.

Eye: Avoid direct contact. Wear chemical protective gloves, if necessary. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto the face. Quickly transport victim to an emergency care facility.

Ingestion: NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim rinse mouth with water again. Quickly transport victim to an emergency care facility.

First aid comments: Provide general supportive measures (comfort, warmth, rest). Consult a doctor and/or the nearest Poison Control Centre for all exposures. Some first aid procedures recommended above require advanced first aid training. Protocols for undertaking advanced procedures must be developed in consultation with a doctor and routinely reviewed. All first aid procedures should be periodically reviewed by a doctor familiar with the material and its conditions of use in the workplace.

4.2. Most important symptoms and effects, both acute and delayed

May be fatal if inhaled, swallowed, or in contact with skin. High exposure to vapours may cause respiratory failure, pulmonary edema, and pneumonia. Skin exposures not immediately removed result in skin destruction and slow to heal ulcerations. Probable lethal oral dose for an adult is 1 mL.

4.3. Indication of any immediate medical attention and special treatment needed

Consult a doctor and/or the nearest Poison Control Centre for all exposures.

SECTION 5 Fire-fighting measures

5.1. Extinguishing media

Bromine does not burn. Use extinguishing agent suitable for the surrounding fire. Use water in flooding quantities as fog. Use water spray to cool fire exposed containers and knock-down vapours. Carbon dioxide or other extinguishing agents that smother flames are not effective on oxidizers. Do NOT get water inside containers.

5.2. Special hazards arising from the substance or mixture

Bromine will enhance the burning rate and may cause spontaneous ignition of combustible materials. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. During a fire, corrosive and highly toxic gases may be generated by thermal decomposition or combustion.

Hazardous combustion products: Hydrogen bromide (toxic, highly corrosive).

5.3. Advice for firefighters

Firefighter's normal protective equipment (Bunker Gear) will not provide adequate protection. Chemical protective clothing (e.g. chemical splash suit) and positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear adequate personal protective equipment. Ventilate area. Eliminate all ignition sources. Remove all flammable and combustible materials.

6.2. Environmental precautions

Notify government occupational health and safety and environmental authorities.

6.3. Methods and material for containment and cleaning up

Do not touch spilled material. Stop or reduce leak if safe to do so. Prevent material from entering sewers, waterways, or confined spaces. Keep materials which can burn away from spilled material. Approach spill from upwind. A vapour suppressing foam may be used to reduce vapours.

Absorb spill with inert material (e.g., dry sand or earth). Transfer to a container for waste disposal. Neutralize spill with solution or slurry of 10-50% potassium carbonate, 10-13% sodium carbonate, 5-10% sodium bicarbonate, or saturated hypo solution (prepared by dissolving 4 kg of sodium thiosulphate in 9.5 L of water and adding 113 g of soda ash). Ventilate area and flush with cold water. ***For trained responders only: maintain mild ammonia atmosphere while cleaning up to minimize vapour attack.***

6.4. Reference to other sections

See Section 7 for information on handling. See Section 8 for information on personal protection. See Section 13 for information on disposal.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Do not use this product once the expiration date is reached. The expiration date defines both the end of the product shelf life and its certification. The expiration date is conditional; products must be stored and transported according to SEASTAR™'s Product Integrity Guidelines.

Plastic bottles should be inspected regularly, specifically HDPE bottles, for any evidence of change to the plastic bottle's ability to deform. The ability to deform is defined by its ductility/plasticity/malleability/embrittlement, or hardening/compressibility. If any change is noticed, carefully and safely transfer or dispose of the product according to your safe handling practices and procedures. Any product disposal must be done according to applicable regulations governing the disposal of the hazardous product.

This material is a CORROSIVE, MODERATE OXIDIZING liquid. Before handling, it is extremely important that engineering controls are operating, and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Maintenance and emergency personnel should be advised of potential hazards.

Immediately report leaks, spills, or failures of the engineering controls. No contact with materials which can burn. Eliminate all ignition sources. Post "NO SMOKING" signs in area. Do not perform any welding, cutting, soldering, drilling or other hot work on an empty vessel, container or piping until all material has been cleared. Consider using closed handling systems for processes involving this material. If a closed handling system is not possible, use bromine in the smallest possible amounts, in an area separate from the storage area. Avoid generating vapours or mists. Prevent the release of vapours or mists into the air.

Handle bromine only with equipment made of Kynar, Teflon, Monel, Pyrex, glass or lead-lined steel. Inspect containers for damage or leaks before handling. Label containers. Cautiously, dispense into sturdy containers made of compatible materials. Use corrosion-resistant transfer equipment when dispensing. Secondary protective containers must be used when this material is being carried. Do not return unused or contaminated material to the original container. Do not use with incompatible materials such as organic compounds. See Section 10 for more information.

Avoid damaging containers. Keep containers closed when not in use. Always assume that empty containers contain hazardous

residues. Never reuse empty containers, even if they appear to be clean. Have suitable emergency equipment for fires, spills, and leaks readily available. Practice good housekeeping. Comply with applicable regulations.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from combustible materials, heat, ignition sources, sparks, and flame. Do not store in direct sunlight. Store away from incompatible materials, such as organic compounds. See Section 10 for more information. Keep quantities stored as small as possible. Empty container may contain hazardous residue.

Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Keep storage area separate from work areas. Storage facilities should be made of fire-resistant materials. Construct walls, floors, shelving, and fittings in storage areas from non-combustible materials that resist attack from bromine.

Inspect all incoming containers to make sure they are properly labelled and not damaged. Store in suitable, labelled containers (usually the shipping container). Protect from damage. Have appropriate fire extinguishers and spill clean-up equipment in storage area. Contain spills or leaks by storing in trays made from compatible materials. Keep absorbents for leaks readily available.

7.3. Specific end use(s)

No information available.

SECTION 8 Exposure controls/Personal protection

8.1. Control parameters

Chemical name	Limit value type	Exposure limit value	Source
Bromine, as Br_2	TLV-TWA	0.1 ppm	USA ACGIH
	TLV-STEL	0.2 ppm	USA ACGIH
	PEL-TWA, REL-TWA	0.1 ppm (0.7 mg/m^3)	USA OSHA, USA NIOSH
	REL-STEL	0.3 ppm (2 mg/m^3)	USA NIOSH
	IDLH	3 ppm	USA NIOSH

8.2. Exposure controls

NOTE: Exposure to this material can be controlled in many ways. The measures appropriate for a worksite depend on how this material is used and on the extent of exposure. This general information can be used to help develop specific control measures. Ensure that control systems are properly designed and maintained. Comply with occupational, environmental, fire, and other applicable regulations.

Engineering Controls: Engineering methods to control hazardous conditions are preferred. Methods include mechanical ventilation (dilution and local exhaust), process or personnel enclosure, control of process conditions, and process modification (e.g., substitution of a less hazardous material). Administrative controls and personal protective equipment may also be required.

Because of the high potential hazard associated with this substance, stringent control measures such as enclosure or isolation should be considered for large scale operations. Supply sufficient replacement air to make up for air removed by exhaust systems. Do not use organic or combustible materials such as wood in the construction of ventilation or control systems.

Personal Protective Equipment: If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection. Have appropriate equipment available for use in emergencies such as spills or fire.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance, and inspection.

Eye / Face protection: Wear a face shield and/or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection: Wear impervious gloves and appropriate protective clothing. Choose body protection according to the amount and concentration of the substance at the workplace. A chemical protective full-body encapsulating suit and respiratory protection may be required in some operations. Have a safety shower/eye-wash fountain readily available in the immediate work area.

Resistance of Materials for Protective Clothing: Guidelines for bromine:

RECOMMENDED (resistance to breakthrough longer than 4 hours): Viton®; Trellchem® HPS or VPS.

CAUTION, use for short periods only (resistance to breakthrough within 1 to 4 hours): Interceptor®.

NOT RECOMMENDED for use (resistance to breakthrough less than 1 hour and/or poor degradation rating): Butyl rubber; Natural rubber; Neoprene rubber; Nitrile rubber; Polyvinyl alcohol (PVAL); Polyvinyl chloride (PVC); Viton®/Butyl rubber; Saranex®; ChemMAX® 3 or 4; Microchem® 4000; Tychem® CPF 3, F, Thermopro, BR/LV, Responder® CSM, TK, or Reflector; Zytron® 500.

Inhalation / Ventilation: NIOSH/OSHA RECOMMENDATIONS FOR BROMINE CONCENTRATIONS IN AIR:

Up to 3 ppm: (APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against the compound of concern ++; or Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern ++; or Any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against the compound of concern* ++; or Any self-contained breathing apparatus with a full facepiece; or Any supplied-air respirator with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode; or Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern ++; or Any appropriate escape-type, self-contained breathing apparatus

**Substance causes eye irritation or damage; eye protection needed.*

++Only non-oxidizable sorbents are allowed (not charcoal).

Personal Hygiene: Remove contaminated clothing immediately. Keep contaminated clothing in closed containers. Discard or launder before rewearing. Inform laundry personnel of contaminant's hazards. Do not eat, drink, or smoke in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Dense fuming liquid	**Vapour pressure:**	175 mm Hg at 20 °C
Colour:	Dark reddish-brown	**Vapour density:**	5.515 at 15 °C
Molecular weight:	159.808 g/mol	**Density:**	3.11 g/mL at 20 °C 3.1055 g/mL at 25 °C
Odour:	Lachrymatory halogens		
Odour threshold:	<0.0099 ppm (detection)	**Solubility:**	Moderately soluble in water. Soluble in common solvents such as ethanol, diethyl ether, chloroform, and carbon disulphide.
pH:	No information available.		
Melting/freezing point:	-7.25 °C (18.95 °F)		
Boiling point:	58.78 °C (137.80 °F)		
Flash point:	Will not burn.	**Partition coefficient:**	No information available.
Evaporation rate:	No information available.	**Auto-ignition temperature:**	Not applicable
Flammability:	Not applicable	**Critical temperature:**	315 °C (599 °F) at 102 atm
Lower flammable (explosive) limit (LFL/LEL):	Not applicable	**Decomposition temperature:**	No information available.
Upper flammable (explosive) limit (UFL/UEL):	Not applicable	**Viscosity: (at 20 °C)**	1.02 mPa·s

9.2. Other information

No information available.

SECTION 10 Stability and reactivity

10.1. Reactivity

Bromine is highly reactive. Reacts vigorously with reducing agents and many organic materials. Attacks most metals including

platinum and palladium.

10.2. Chemical stability

Normally stable.

10.3. Possibility of hazardous reactions

See Section 10.5 for incompatible materials.

10.4. Conditions to avoid

High temperatures, open flames, ignition sources, moisture, reducing agents.

10.5. Incompatible materials

NOTE: Chemical reactions that could result in a hazardous situation (e.g. generation of flammable or toxic chemicals, fire or detonation) are listed here. Many of these reactions can be done safely if specific control measures (e.g. cooling of the reaction) are in place. Although not intended to be complete, an overview of important reactions involving common chemicals is provided to assist in the development of safe work practices.

ACETALDEHYDE – reacts violently.

ACETYLENE, ACRYLONITRILE, AMMONIA, DIMETHYL FORMAMIDE, ETHYL PHOSPHINE, HYDROGEN, NICKEL CARBONYL, NITROGEN TRIIODIDE, OZONE, OXYGEN DIFLUORIDE, SILVER AZIDE, or SODIUM CARBIDE – reacts explosively.

ALUMINUM – vigorous, incandescent reaction with bromine vapour.

ANTIMONY – spontaneously flammable.

COPPER CARBIDE – spontaneously flammable with bromine vapour.

LITHIUM, SODIUM or POTASSIUM (with moderate to heavy mechanical shock) – vigorous reaction with incandescence (gas). Explodes violently in contact with liquid bromine.

METHYL ALCOHOL – violent exothermic reaction.

OZONE – severe explosions occur in attempts to form tribromine octoxide.

PHOSPHORUS (white) – ignites and causes dangerous explosions with liquid bromine.

RUBBER – reacts violently with natural rubber and more slowly with some synthetic rubbers.

10.6. Hazardous decomposition products

Hydrogen bromide.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

RTECS#: EF9100000

Acute toxicity:

Oral LD50: 1700 mg/kg (oral, rat); 3100 mg/kg (oral, mouse)
Dermal LD50: No information available.
Inhalation LC50: 2700 mg/m^3 (inhalation, rat); 2900 mg/m^3 (inhalation, mouse)
Other information: These were the only LD50 values located. Given the well recognized toxicity of bromine they are likely too high.

Exposure routes:

Inhalation: May be fatal if inhaled. HIGHLY TOXIC. Concentrations ≥10 ppm cause severe respiratory irritation with mucous secretion in upper airways, coughing, nosebleeds, respiratory difficulties, dizziness, and headache. High exposure to vapours may cause respiratory failure, pulmonary edema, and pneumonia.

Skin: Corrosive. May be fatal in contact with skin. Corrosive materials are capable of producing severe burns, blisters, ulcers and permanent scarring, depending on the concentration of the solution and the duration of contact. Skin exposures not immediately removed result in skin destruction and slow to heal ulcerations.

Eye: Corrosive. Low concentrations of the vapour (less than 1 ppm) are very irritating to the eyes and cause inflammation and lachrymation. Corrosive materials are capable of producing severe eye burns, and permanent injury, including blindness,

depending on the concentration of the solutions and duration of contact.

Ingestion: May be fatal if swallowed. May cause gastrointestinal tract irritation and burns with loss of appetite, joint pain, abdominal pain, nausea, and diarrhea. Probable lethal oral dose for an adult is 1 mL.

Germ cell mutagenicity: Bromine is not known to be a mutagen.

Carcinogenicity: Bromine is not known to be a carcinogen. The International Agency for Research on Cancer (IARC) has not evaluated the carcinogenicity of this chemical. The American Conference of Governmental Industrial Hygienists (ACGIH) has not assigned a carcinogenicity designation to this chemical. The US National Toxicology Program (NTP) has not listed this chemical in its report on carcinogens.

Reproductive toxicity: Bromine is not known to cause reproductive toxicity.

Additional information: Long term exposure may have negative effects on the respiratory and male reproductive systems. To the best of our knowledge, the chronic toxicity of this substance has not been fully investigated.

SECTION 12 Ecological information

12.1. Toxicity

Rainbow trout: LC50 = 0.31 ppm/24H; Bluegill: LC50 = 0.52 ppm/24H; Water flea: LC50 = 1 mg/L/48H

12.2. Persistence and degradability

Persistent (P): Yes

12.3. Bioaccumulative potential

Bioaccumulation is not anticipated for inorganic compounds that are miscible with water.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Not applicable for inorganic substances.

12.6. Other adverse effects

No information available.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Review local/regional/international regulations or requirements prior to disposal. Store material for disposal as indicated in Storage Conditions. **Contaminated packaging:** Dispose of as unused product.

SECTION 14 Transport information

14.1. UN number	UN1744
14.2. UN proper shipping name	BROMINE
14.3. Transport hazard class(es)	8 (6.1)
Hazards label(s):	8+6.1
14.4. Packing group	I
14.5. Environmental hazards	Yes
Marine pollutant:	Yes

14.6. Special precautions for user

ADR/RID hazard identification number:	886
ADR/RID tunnel code:	C/D
IMDG EMS number:	F-A, S-B
IMDG Category:	D

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

SECTION 15 Regulatory information

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

OSHA Hazards: CAS #7726-95-6 meets criteria for hazardous material, as defined by 29 CFR 1910.1200.

SARA:

302: This material contains Bromine (CAS# 7726-95-6, ≥99.5%), which is subject to the reporting requirement of 500 lbs RQ. This material contains Chloroform (CAS# 67-66-3, ≤40 ppm), which is subject to the reporting requirement of 10 lbs RQ.

313: This material contains Bromine (CAS# 7726-95-6, ≥99.5%), which is subject to the reporting requirements of Section 313 of SARA Title III. This material contains Carbon tetrachloride (CAS# 56-23-5, ≤40 ppm), which is subject to the reporting requirements of Section 313 of SARA Title III. This material contains Chloroform (CAS# 67-66-3, ≤40 ppm), which is subject to the reporting requirements of Section 313 of SARA Title III.

311/312: This material contains Bromine (CAS# 7726-95-6, ≥99.5%). This material contains Carbon tetrachloride (CAS# 56-23-5, ≤40 ppm). This material contains Chloroform (CAS# 67-66-3, ≤40 ppm).

Right To Know Lists:

Massachusetts: CAS# 7726-95-6 is listed, 1 lb RQ. CAS# 56-23-5 is listed, 5 lbs RQ. CAS# 67-66-3 is listed, 5 lbs RQ.

Pennsylvania: CAS# 7726-95-6 is listed, E (environmental hazard). CAS# 56-23-5 is listed, E (environmental hazard), S (special hazardous substance). CAS# 67-66-3 is listed, E (environmental hazard), S (special hazardous substance).

New Jersey: CAS# 7726-95-6 is listed, RTK# 0252. CAS# 56-23-5 is listed, RTK# 0347. CAS# 67-66-3 is listed, RTK# 0388.

California Prop. 65: CAS# 7726-95-6 is not subject to this act. CAS# 56-23-5 is subject to this act, type of toxicity: cancer. CAS# 67-66-3 is subject to this act, type of toxicity: cancer.

Inventory Status:

Canada DSL/NDSL Inventory List: Bromine (CAS# 7726-95-6) is listed on the DSL. Carbon tetrachloride (CAS# 56-23-5) is listed on the DSL. Chloroform (CAS# 67-66-3) is listed on the DSL.

US TSCA Inventory List: Bromine (CAS# 7726-95-6) is listed. Carbon tetrachloride (CAS# 56-23-5) is listed. Chloroform (CAS# 67-66-3) is listed.

EC Inventory List: Bromine (CAS# 7726-95-6) is listed, EC# 231-778-1. Carbon tetrachloride (CAS# 56-23-5) is listed, EC# 200-262-8. Chloroform (CAS# 67-66-3) is listed, EC# 200-663-8.

15.2. Chemical safety assessment

Not applicable.

SECTION 16 Other information

Full text of H-Statement(s) and P-Statement(s):

H330: Fatal if inhaled.
H314: Causes severe skin burns and eye damage.
H400: Very toxic to aquatic life.
P260: Do not breathe fume/gas/mist/vapours/spray.
P264: Wash thoroughly after handling.
P271: Use only in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: Wear respiratory protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P363: Wash contaminated clothing before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER or 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.

P391: Collect spillage.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container according to federal, regional and local government requirements.

Date modified: 10-2020, Supersedes 04-2018, 07-2014, 05-2014, 04-2011

The statements contained herein are offered for informational purposes only and are based upon technical data. SEASTAR CHEMICALS ULC believes them to be accurate but does not purport to be all-inclusive. The above-stated product is intended for use only by persons having the necessary technical skills and facilities for handling the product at their discretion and risk. Since conditions and manner of use are outside our control, we (SEASTAR CHEMICALS ULC) make no warranty of merchantability or any such warranty, express or implied with respect to information and we assume no liability resulting from the above product or its use. Users should make their own investigations to determine suitability of information and product for their particular purposes.