Material Safety Data Sheet
Hydrogen Peroxide Solution

(Hydrogen Peroxide, 30%)

Print Date: September 2011

SECTION 1 – Chemical Product and Company Identification

MSDS Name: Hydrogen Peroxide Solution MSDS Preparation Date: 09-2011, Supersedes 05-2009, 07-2008, 02-2007 & 08-2004

Synonyms: Dihydrogen dioxide, hydrogen dioxide, hydroperoxide, hydrogen peroxide
Chemical Names: DE Wasserstoffperoxid in Lösung; ES Peróxido de hidrógeno en disolución (Agua oxigenada); FR Peroxyde d'hydrogène en solution (Eau oxygénée); IT Perossido di idrogeno soluzione (Acqua ossigenata); NL Waterstofperoxide in oplossing
UN / NA Number: UN2014
Formula: H_2O_2
Molecular Wt: 34.01

Product numbers: S021001, S021001-SSNF03, S021001-SSNF04

Supplier: Seastar Chemicals Inc, PO Box 2219, 2045 Mills Road West, Sidney, BC, Canada V8L 3S8
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CANUTEC (CAN): (613)-996-6666

SECTION 2 – Composition/Information on Ingredients

Chemical Name	*Percent*	*CAS #*	*EINECS/ELINCS*
Hydrogen Peroxide	30-32%	7722-84-1	231-765-0
Water	Balance	7732-18-5	231-791-2

SECTION 3 – Hazards Identification

EMERGENCY OVERVIEW

Appearance: Clear, colourless liquid with a slightly sharp and irritating odour. Will not burn. MODERATE OXIDIZER. Contact with combustible materials may cause fire or explosion. CORROSIVE to the eyes. May cause permanent injury including blindness. Corrosive to steel, iron, nickel, copper and its alloys.
Target Organs: Blood, central nervous system, eyes.

Potential Health Effects

Primary Route(s) of Entry: Inhalation. Eye contact. Skin contact.
Effects of Acute Exposure: Corrosive. Causes severe eye burns. Irritating to skin, eyes and respiratory system.
LD50/LC50: CAS# 7722-84-1: Inhalation, rat: LC50 = 2 gm/m^3/4H; Oral, rat: LD50 = 910 mg/kg. CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.
Inhalation: Hydrogen peroxide does not readily form a vapour at room temperature. If heated or misted, it is irritating to the nose, throat and respiratory tract, based on limited human and animal information. In very severe cases, bronchitis or a potentially life-threatening accumulation of fluid in the lungs (pulmonary edema) may occur. However, no reports of these effects in humans were located.
Eyes: Hydrogen peroxide solutions of 20% to less than 35% are corrosive to eyes based on animal information. 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. No human information was located for hydrogen peroxide solutions of 20% to less than 35%. Direct contact with dilute solutions (up to 3%) has not resulted in permanent eye injury.
Skin: Hydrogen peroxide solutions of 20% to less than 35% are very mild skin irritants based on animal information. Prolonged contact (e.g. 24-hours) can cause moderate to severe irritation. Whitening or bleaching of the skin has been observed in humans following contact with dilute solutions. Exposure to 35% hydrogen peroxide may result in redness and an eruption of gas bubbles under the skin described as being similar to bubble wrap; however, the skin eruptions heal rapidly without scarring following treatment.
Ingestion: Case reports of non-occupational ingestion of hydrogen peroxide describe symptoms such as sharp pains in the abdomen, foaming at the mouth, vomiting, temporary unconsciousness and fever. Sensory and motor impairment have also been described. Concentrated solutions (greater than 20%) irritate the gastrointestinal tract and may cause corrosive injury and death. Hydrogen peroxide reacts in the stomach releasing large amounts of oxygen. Ingestion is not a typical route of occupational exposure.

Effects of Chronic Exposure: Prolonged or repeated exposure may cause eye and throat irritation, corneal damage, dermatitis, and gradual bleaching of hair.

SECTION 4 – First Aid Measures

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, immediately obtain medical attention.
Eyes: 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 until flushing is done. 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. Quickly transport victim to an emergency care facility.
Skin: Remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately flush with lukewarm, gently flowing water for 15-20 minutes. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before re-use or discard. Keep contaminated clothing under water in a closed container until it can be safely discarded.
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. Immediately obtain medical attention.
Notes to Physician: Consult a doctor and/or the nearest Poison Control Centre for all exposures except minor instances of inhalation or skin contact. All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace. Attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. In the event of severe distension of the stomach or esophagus due to gastric formation, insertion of a gastric tube may be required.

SECTION 5 – Fire Fighting Measures

General Information: Hydrogen peroxide solutions, 20% to less than 35%, do not burn, but are moderate to strong oxidizing agents. Concentrations of 27.5% and above can cause combustible materials such as wood, paper, oils and grease to burst into flames and will support, accelerate and intensify the burning of combustible materials in a fire. Some substances that do not normally burn in air will ignite or explode upon contact with hydrogen peroxide. Closed containers may rupture violently due to rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time, or if contaminated with certain metals or dirt. Large amounts of oxygen gas may be released to form an oxygen-rich atmosphere. No part of a container should be subjected to a temperature higher than 49 °C (120 °F). 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.
Extinguishing Media: Use extinguishing media suitable for the surrounding fire. Use large quantities of water as fog to fight fires in which this material is involved. Some chemical extinguishing agents may accelerate decomposition. Carbon dioxide or other extinguishing agents that smother flames are not effective on oxidizers.
Auto-ignition Temperature: Not applicable.
Flash Point: Does not burn, but is a moderate oxidizing material and can increase the risk of fire or the intensity of a fire.
NFPA Rating: Health 3; Flammability 0; Reactivity 1; Other OXIZIDING MATERIAL (listed under Hydrogen Peroxide, aqueous solutions (40% to 60%))
Explosion Limits: Lower: 40 vol %. Upper: 100 vol %.

SECTION 6 – Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spill Precautions: 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. Notify government environmental agencies if material is released into the environment.
Clean-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 that can burn away from spilled material. SMALL SPILLS: Flush area with water. LARGE SPILLS: Dike with earth, sand or inert absorbent material to contain spill. Remove liquid with compatible pumps or vacuum equipment. Place in suitable, covered, labelled, vented containers. Flush area with excess water.
Waste disposal method: According to all applicable regulations. Avoid run-off.

SECTION 7 – Handling and Storage

Handling: This material is a CORROSIVE (to metals and eyes), MODERATE OXIDIZING liquid. Wear appropriate personal protective equipment, if necessary, to prevent eye contact. No contact with materials that can burn. Eliminate all ignition sources. Immediately report leaks, spills or failures of the engineering controls. Prevent contamination of peroxide solutions by any source including dust, metals and organic materials. 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. Do not allow water to evaporate from the solution. Replace water and maintain levels of stabilizer. Consider using closed handling systems for processes involving this material. Avoid generating vapours or mists. Prevent the release of vapours or mists into the air.
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. Add to cold water slowly, in small amounts and stir frequently to avoid excessive heat

generation. Never transfer by pressurizing the original shipping container with air or inert gas. Do not return unused or contaminated material to the original container. Do not use with incompatible materials such as organic compounds (e.g. alcohols, ethers). See Section 10 for more information. Do not allow contact with materials such as cleaning solvents, paints or thinners. 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.

Storage: Store below 35 °C. Store in a cool, well-ventilated area, out of direct sunlight, away from heat and ignition sources and away from combustible materials. When storing large quantities, store in an isolated, fireproof building, if possible. Keep quantities stored as small as possible. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Storage facilities should be made of fire resistant materials. Stainless steel (#316) is one material recommended for storage vessels and piping.

Store away from incompatible materials, such as organic compounds. See Section 10 for more information. Store in suitable, labelled containers (usually the shipping container). Containers should be equipped with an adequately sized vent or other relief device to prevent overpressurization due to decomposition or fire exposure. 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.

SECTION 8 – Exposure Control/Personal Protection

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). 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. A totally enclosed system with an associated purging system should be considered for unloading bulk hydrogen peroxide and sampling process liquids. To prevent the release of hydrogen peroxide due to equipment failure, backup controls (e.g. double mechanical seals for process pumps) should be considered. 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.

Exposure Limits:

Chemical Name	*ACGIH*	*NIOSH*	*OSHA*
Hydrogen Peroxide	1 ppm TWA	1 ppm (1.4 mg/m^3) TWA; 75 ppm IDLH	1 ppm (1.4 mg/m^3) TWA

Personal Protective Equipment

Eye/Face Protection: Chemical safety goggles suitable for splash protection and/or a face shield as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Have an eye-wash fountain readily available in the immediate work area.

Skin Protection: Wear impervious gloves and appropriate protective clothing. Choose body protection according to the amount and concentration of the substance at the work place.

Resistance of Materials for Protective Clothing: No specific information for dilute solutions.

Guidelines for hydrogen peroxide 30-70%: RECOMMENDED (resistance to breakthrough longer than 8 hours): Rubber - butyl, natural or nitrile; Polyethylene; Viton®; Tychem® CPF 3, BR/LV, Responder®, or TK. RECOMMENDED (resistance to breakthrough longer than 4 hours): Polyvinyl chloride; Silver Shield/4H® (polyethylene/ethylene vinyl alcohol). CAUTION, use for short periods only (resistance to breakthrough within 1 to 4 hours): Neoprene rubber. NOT RECOMMENDED for use (resistance to breakthrough less than 1 hour): Polyvinyl alcohol.

Inhalation/Ventilation: Use in a chemical fume hood. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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 such as NIOSH (US) or CEN (EU).

Personal Hygiene: Remove contaminated clothing promptly. Drying of concentrated material on clothing may cause fire. Immerse contaminated clothing in water, and keep thoroughly wet until discarded or laundered. 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.

SECTION 9 – Physical and Chemical Properties

Physical State: Liquid
Appearance: Clear, colourless
Odour: Sharp, irritating odour
pH Value: Slightly acid to litmus paper.
Vapour Pressure: 35% (w/w): 18 mm Hg @ 30°C
Vapour Density: 1.2 (air=1)
Evaporation Rate: Not available
Viscosity: 1.11 mPa·s @ 20°C
Boiling Point: 20% (w/w): 103.6 °C (218.5 °F); 30% (w/w): 106.2 °C (223.2 °F); 35% (w/w): 108 °C (226 °F)
Freezing/Melting Point: 20% (w/w): -14.6 °C (5.7 °F); 30% (w/w): -25.7 °C (-14.3 °F); 35% (w/w): -33.0 °C (-27.4 °F)
Specific Gravity/Density: 20% (w/w): 1.07; 30% (w/w): 1.11 @ 25 °C; 35% (w/w): 1.113 @ 20 °C
Solubility: Soluble in all proportions in water. Soluble in all proportions in many polar solvents, e.g. low molecular weight alcohols, glycols and ketones; insoluble in petroleum ether. (NOTE: Concentrated hydrogen peroxide solutions can react explosively with these solvents.)
Molecular Formula: H_2O_2
Molecular Weight: 34.0128

SECTION 10 – Stability and Reactivity

Chemical Stability: Solutions that are completely free of contamination are relatively stable. Stability depends upon many factors including temperature, pH, and the presence of impurities. Alkaline solutions are less stable than acidic ones (the optimum pH is 3.5-4.5). Can decompose in sunlight. Hydrogen peroxide readily liberates oxygen, water and heat. May attack or ignite some forms of plastics, rubber, or coatings.
Conditions to Avoid: Heat, open flames, contamination, depletion of stabilizers, pH > 4.5.
Incompatibilities with Other Materials: Hydrogen peroxide solutions (30% or greater) are strong oxidizing agents capable of reacting explosively with many substances. Some organic compounds form unstable peroxides.

COMBUSTIBLE MATERIALS (e.g. wood, paper, textiles, oil, grease) - may cause fire or explosion upon contact.
STRONG BASES (e.g potassium hydroxide or sodium hydroxide) - can explode violently.
NITRIC ACID (more than 50%) or SULFURIC ACID - mixtures with 35% and above hydrogen peroxide can explode violently.
ORGANIC COMPOUNDS (e.g. carboxylic acids and anhydrides, nitrogen-containing bases, aldehydes, ketones, ethers, alcohols, charcoal, organic dust) – spontaneous combustion, violent decomposition and/or explosion may occur.
METALS (powdered or metal surfaces), METAL OXIDES, METAL SULFIDES METAL SALTS, or IODATES - may cause violent decomposition.
REDUCING AGENTS (e.g. metal hydrides) - may react violently.
POTASSIUM PERMANGANATE - can explode when in contact with very concentrated hydrogen peroxide.

Combustion and Thermal Decomposition Products: Decomposes to molecular oxygen, which can accelerate the burning of flammable materials or cause spontaneous combustion.
Hazardous Polymerization: Will not occur.

SECTION 11 – Toxicological Information

RTECS: CAS# 7722-84-1: MX0887000; MX0888000; MX0890000; MX0899000; MX0899500; MX0900000. CAS# 7732-18-5: ZC0110000.
LD50/LC50: CAS# 7722-84-1: Oral, rat: LD50 = 910 mg/kg; Skin, rat: LD50 = 3 gm/kg; Intravenous, mouse: LD50 = >50 gm/kg; Oral, rabbit: LD50 = 820 mg/kg. CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.
Carcinogenicity: CAS# 7722-84-1: Oral, mouse: TDLo = 622 gm/kg/2Y (continuous). ACGIH: A3 - Animal carcinogen; IARC: IARC Group 3 - Not classifiable; NTP: Not listed. CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No human information available.
Teratogenicity: No human information available.
Reproductive Effects: No human information available.
Neurotoxicity: No information available.
Mutagenicity: CAS#: 7722-84-1 Mutation in microorganisms: *S. typhimurium* = 4400 umol/plate.; Hyman, embryo = 50 umol/L.; Cytogenetic Analysis: Human, embryo = 20 umol/L. Mutation in Mammalian Somatic Cells: Hamster, lung = 1 mmol/L.
Other Studies: No data available.

SECTION 12 – Ecological Information

Ecotoxicity: Carp: LC50 = 42 mg/L/48H. Channel catfish: LC50 = 37.4 mg/L/96H. Fathead minnow: LC50 = 16.4 mg/L/96H (fresh water). Water flea: EC50 = 2.4 mg/L/48H (fresh water).
Environmental: Rain washout is expected due to condensation of hydrogen peroxide on contact with water droplets. In the atmosphere, indirect photooxidation is predicted with a half-life of 10-20 hours. Non-significant evaporation and adsorption from water surfaces and soil/sediments is expected. Rapid and considerable aerobic biodegradation was determined with a half-life < 1 minute (biological treatment sludge) and 0.3-2 days (fresh water).
Physical: No information available.
Other: No information available.

SECTION 13 – Disposal Considerations

Dispose of in a manner consistent with federal, provincial/state/territorial, and local regulations.
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

SECTION 14 – Transport Information

CANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG) SHIPPING INFORMATION

Proper Shipping Name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20 per cent but not more than 60 per cent hydrogen peroxide (stabilized as necessary)

UN Number: UN2014	Hazard Class: 5.1, 8	Packing Group/Category: II
Special Provisions: ---	Passenger Carrying Road/Rail Limit: 1 kg or L	Marine Pollutant: ---

NOTE: This information incorporates the Transportation of Dangerous Goods Regulations SOR/2001-286, effective October 14, 2009.

US DEPARTMENT OF TRANSPORT (DOT) HAZARDOUS MATERIALS SHIPPING INFORMATION (49 CFR)

Shipping Name and Description: HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)
Identification Number: UN2014 Hazard Class or Division: 5.1 Packing Group: II

NOTE: This information was taken from the US Code of Federal Regulations Title 49 - Transportation and is effective October 2003.

IATA (1 January – 31 December 2010)

UN/ID No. A	Proper Shipping Name / Description B	Class or Div. (Sub Risk) C	Hazard Label(s) D	PG E	Passenger and Cargo Aircraft		Cargo Aircraft Only		S.P. See 4.4 M
					Pkg Inst I	Max Net Qty/Pkg J	Pkg Inst K	Max/Net Qty/Pkg L	
2014	Hydrogen peroxide, aqueous solution with 20% or more but 40% or less hydrogen peroxide (stabilized as necessary)	5.1 (8)	Oxidizer & Corrosive	II	501	1 L	506	5 L	

NOTE: Consult IATA DG Regulations for the most recent information, abbreviations and reference marks.

SECTION 15 – Regulatory Information

US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)
OSHA Hazard Communication Evaluation: Meets criteria for hazardous material, as defined by 29 CFR 1910.1200.

US Federal

TSCA: CAS# 7722-84-1 is listed on the TSCA inventory. CAS# 7732-18-5 is listed on the TSCA inventory.
Health & Safety Reporting List: None of the components are on this list.
Chemical Test Rules: None of the components are on this list.
TSCA Section 12b: None of the components are on this list.
TSCA Significant New Use Rule (SNUR): None of the components are on this list.
CERCLA Reportable Quantities (RQ): None of the components have an RQ.
SARA Threshold Planning Quantities (TPQ): CAS# 7722-84-1: TPQ = 1,000 lbs (concentration > 52%).

SARA Hazard Categories: CAS # 7722-84-1: Acute, flammable.
SARA Section 313: No components are reportable under Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act: This material does not contain any Hazardous Air Pollutants, Class 1 Ozone Depletors, or Class 2 Ozone Depletors.
Clean Water Act: None of the components in this product are listed as Hazardous Substances, Priority Pollutants, or Toxic Pollutants under the CWA.
OSHA: None of the components are considered highly hazardous by OSHA.

US State

State Right to Know: CAS# 7722-84-1 can be found on the following state Right-to-Know lists: California, New Jersey (RTK# 1015), Pennsylvania, Minnesota, Massachusetts (1 lbs RQ).

California Prop 65: None of the components are listed.
California No Significant Risk Level: None of the components are listed.

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)
CCOHS WHMIS Classification:

C - Oxidizing material
D2B - Poisonous and infectious material - Other effects - Toxic
E - Corrosive material

WHMIS Health Effects Criteria Met by this Chemical: D2B - Eye irritation - toxic - other, E - TDG class 8 - corrosive substance
WHMIS Ingredient Disclosure List: Included for disclosure at 1% or greater.

Detailed WHMIS Classification According to Criteria:

Class A - Compressed Gas: Does not meet criteria.
Class B - Flammable and Combustible Material: Does not meet criteria. Not combustible (does not burn).
Class C - Oxidizing Material: Meets criteria. NFPA Class 1 and Class 2 oxidizer; TDG Class 5.1.
Class D - Poisonous and Infectious Material. Division 1 - Immediate and Serious Toxic Effects: Insufficient information for classification.
Acute Lethality: Insufficient information.
Class D - Poisonous and Infectious Material. Division 2 - Other Toxic Effects: Meets criteria for "Toxic material". See detailed evaluation below.
Chronic Health Effects: Insufficient information. Liver damage observed in mice administered 0.15% (approximately 230 mg/kg/day) in their drinking water for 16 weeks.
Carcinogenicity: Does not meet criteria. IARC Group 3. ACGIH A3.
Teratogenicity and Embryotoxicity: Insufficient information. No conclusions can be drawn based on the limited animal information available.
Mutagenicity: Does not meet criteria. Negative results obtained in live animals.
Respiratory Tract Sensitization: Does not meet criteria. Not reported as a human respiratory sensitizer.
Skin Irritation: Does not meet criteria. Solutions of 20% to less than 35% are classified as corrosive (TDG 8 and corrosive to metals). However, a 4-hour exposure to 35% hydrogen peroxide solution has caused only very mild skin irritation in animals.
Eye Irritation: "Toxic". Solutions of 20% to less than 35% have caused corrosive effects in animals.
Skin Sensitization: Insufficient information. No conclusions can be drawn from one occupational case report; negative in an animal test.

Class E - Corrosive Material: Meets criteria.

TDG Class 8. Not corrosive to skin. Corrosive to carbon steel alloy 1020 at any concentration and any temperature, but not corrosive to aluminum metal and certain aluminum alloys (1060, 5052, 6063 and aluminum-magnesium alloys). No information on the corrosivity to aluminum alloy 7075-T6 was located.

Class F - Dangerously Reactive Material: Does not meet criteria. More concentrated solutions can decompose vigorously or explosively.

Canadian DSL/NDSL: CAS# 7722-84-1 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List.

EUROPEAN UNION (EU) CLASSIFICATION AND LABELLING INFORMATION

EU Index#: 008-003-00-9

EU Classification: Serious eye damage – Category 1
Acute toxicity, Oral – Category 4
Acute toxicity, Inhalation – Category 4

EU Signal Word: Danger

EU Pictograms:

GHS05

GHS07

EU Hazard Statements:

H318: Causes serious eye damage.

H302: Harmful if swallowed.

H332: Harmful if inhaled.

EU Precautionary Statements:

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

P264: Wash thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

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

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER or doctor/physician.

P330: Rinse mouth.

P501: Dispose of contents/container according to federal, regional and local government requirements.

Exposure Limits:

CAS# 7722-84-1: OEL-AUSTRALIA: TWA 1 ppm (1.4 mg/m^3)
OEL-BELGIUM: TWA 1 ppm (1.4 mg/m^3)
OEL-DENMARK: TWA 1 ppm (1.4 mg/m^3)
OEL-FINLAND: TWA 1 ppm (1.4 mg/m^3); STEL 3 ppm (4.2 mg/m^3)
OEL-FRANCE: VME 1 ppm (1.5 mg/m^3)
OEL-GERMANY: TWA 1 ppm (1.4 mg/m^3)
OEL-KOREA: TWA 1 ppm (1.5 mg/m^3)
OEL-MEXICO: TWA 1 ppm (1.5 mg/m^3);STEL 2 ppm (3 mg/m^3)
OEL-THE NETHERLANDS: TWA 1 ppm (1.4 mg/m^3)
OEL-NEW ZEALAND: TWA 1 ppm (1.4 mg/m^3)
OEL-NORWAY: TWA 1 ppm (1.4 mg/m^3)
OEL-POLAND: TWA 1.5 mg/m^3, STEL 4 mg/m^3
OEL-THE PHILIPPINES: TWA 1 ppm (1.4 mg/m^3)
OEL-SWEDEN: TWA 1 ppm (1.4 mg/m^3), CL 2 ppm (3 mg/m^3)
OEL-SWITZERLAND: MAK-W 0.5 ppm (0.71 mg/m^3), KZG-W 0.5 ppm (0.71 mg/m^3)
OEL-TURKEY: TWA 1 ppm (1.4 mg/m^3)
OEL-UNITED KINGDOM: TWA 1 ppm (1.4 mg/m^3); STEL 2 ppm
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN check ACGIH TLV;
OEL IN SINGAPORE, VIETNAM check ACGIH TLV

SECTION 16 – Other Information

The statements contained herein are offered for informational purposes only and are based upon technical data. Seastar Chemicals Inc 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 Inc) 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.