

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Concentrated Descaling Engine Flush

Product Code: 926XX

Intended Use of the Product

Stain Remover

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Met. Corr. 1 H290

Acute Tox. 4 (Inhalation:gas) H332

Skin Irrit. 2 H315

Eye Dam. 1 H318

Skin Sens. 1 H317

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H290 - May be corrosive to metals.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H318 - Causes serious eye damage.
 H332 - Harmful if inhaled.

Precautionary Statements (GHS-US)

: P234 - Keep only in original container.
 P261 - Avoid breathing gas.
 P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P272 - Contaminated work clothing must not be allowed out of the workplace.
 P280 - Wear eye protection, protective gloves, protective clothing.
 P302+P352 - If on skin: Wash with plenty of water.
 P304+P340 - IF INHALED: Remove person 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.
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P390 - Absorb spillage to prevent material damage.

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P406 - Store in corrosive resistant container with a resistant inner liner.

P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: May be corrosive to the respiratory tract.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Hydrogen chloride	(CAS No) 7647-01-0	5 - 10	Met. Corr. 1, H290 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
Oxalic acid	(CAS No) 144-62-7	1 - 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318
Dibutyl thiourea	(CAS No) 109-46-6	0.1 - 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Harmful if inhaled. Causes serious eye damage. Causes skin irritation. Exposure may produce an allergic reaction.

Inhalation: Harmful if inhaled.

Skin Contact: May cause an allergic skin reaction. Causes skin irritation.

Eye Contact: Causes serious eye damage.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Exposure may produce an allergic reaction.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Corrosive to metals. Upon contact with metal it may evolve explosive hydrogen gas. Corrodes aluminum at a rate of 70746 mm/y; corrodes steel at a rate of 48.8 mm/y.

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Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not allow run-off from fire fighting to enter drains or water courses.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Chlorine gas. Sodium oxides.

Reference to Other Sections Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not allow contact with metals. Do not get in eyes, on skin, or on clothing. Do NOT breathe (vapor, mist, gas).

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Stop leak if safe to do so.

Environmental Precautions Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Cautiously neutralize spilled liquid. Absorb and contain spill with inert material, then place in suitable container.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Corrosive vapors are released.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Storage areas should be periodically checked for corrosion and integrity.

Incompatible Materials: Strong acids. Strong oxidizers. Metals.

Special Rules on Packaging: Store in original container or corrosive resistant and/or lined container.

Specific End Use(s) Cleaner.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Hydrogen chloride (7647-01-0)		
Mexico	OEL Ceiling (mg/m ³)	7 mg/m ³
Mexico	OEL Ceiling (ppm)	5 ppm
USA ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	7 mg/m ³
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	7 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm
USA IDLH	US IDLH (ppm)	50 ppm
Alberta	OEL Ceiling (mg/m ³)	3 mg/m ³
Alberta	OEL Ceiling (ppm)	2 ppm
British Columbia	OEL Ceiling (ppm)	2 ppm
Manitoba	OEL Ceiling (ppm)	2 ppm
New Brunswick	OEL Ceiling (mg/m ³)	7.5 mg/m ³
New Brunswick	OEL Ceiling (ppm)	5 ppm
Newfoundland & Labrador	OEL Ceiling (ppm)	2 ppm

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Nova Scotia	OEL Ceiling (ppm)	2 ppm
Nunavut	OEL Ceiling (mg/m ³)	7.5 mg/m ³
Nunavut	OEL Ceiling (ppm)	5 ppm
Northwest Territories	OEL Ceiling (mg/m ³)	7.5 mg/m ³
Northwest Territories	OEL Ceiling (ppm)	5 ppm
Ontario	OEL Ceiling (ppm)	2 ppm
Prince Edward Island	OEL Ceiling (ppm)	2 ppm
Québec	PLAFOND (mg/m ³)	7.5 mg/m ³
Québec	PLAFOND (ppm)	5 ppm
Saskatchewan	OEL Ceiling (ppm)	2 ppm
Yukon	OEL Ceiling (mg/m ³)	7 mg/m ³
Yukon	OEL Ceiling (ppm)	5 ppm

Oxalic acid (144-62-7)

Mexico	OEL TWA (mg/m ³)	1 mg/m ³
Mexico	OEL STEL (mg/m ³)	2 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
USA ACGIH	ACGIH STEL (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	500 mg/m ³
Alberta	OEL STEL (mg/m ³)	2 mg/m ³
Alberta	OEL TWA (mg/m ³)	1 mg/m ³
British Columbia	OEL STEL (mg/m ³)	2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	1 mg/m ³
Manitoba	OEL STEL (mg/m ³)	2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	1 mg/m ³
New Brunswick	OEL STEL (mg/m ³)	2 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	1 mg/m ³
Newfoundland & Labrador	OEL STEL (mg/m ³)	2 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1 mg/m ³
Nova Scotia	OEL STEL (mg/m ³)	2 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	1 mg/m ³
Nunavut	OEL STEL (mg/m ³)	2 mg/m ³
Nunavut	OEL TWA (mg/m ³)	1 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	2 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	1 mg/m ³
Ontario	OEL STEL (mg/m ³)	2 mg/m ³
Ontario	OEL TWA (mg/m ³)	1 mg/m ³
Prince Edward Island	OEL STEL (mg/m ³)	2 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	1 mg/m ³
Québec	VECD (mg/m ³)	2 mg/m ³
Québec	VEMP (mg/m ³)	1 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	2 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	1 mg/m ³
Yukon	OEL STEL (mg/m ³)	2 mg/m ³
Yukon	OEL TWA (mg/m ³)	1 mg/m ³

Exposure Controls

Appropriate Engineering Controls: Alarm detectors should be used when toxic gases may be released. Provide sufficient ventilation to keep vapors below permissible exposure limit. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

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Personal Protective Equipment: Protective clothing. Safety glasses. Face shield. Gloves. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Corrosion proof clothing.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Green
Odor	: Characteristic
Odor Threshold	: Not available
pH	: 1
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting/Freezing Point	: Not available
Boiling Point	: 100 °C (212 °F)
Flash Point	: > 100 °C (212 °F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Upper and Lower Flammable Limits	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density/Specific Gravity	: 1.097 at 20 °C (68 °F) (water = 1)
Solubility	: Soluble in water.
Partition coefficient: n-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Corrosive to metals. Upon contact with metal it may evolve explosive hydrogen gas. Corrodes aluminum at a rate of 70746 mm/y; corrodes steel at a rate of 48.8 mm/y.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Contact with metallic substances.

Incompatible Materials: Strong acids. Strong oxidizers. Metals.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂). Chlorine gas. Sodium oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Harmful if inhaled.

ID50 and IC50 Data:

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ATE US (gases)

4,500.00 ppmV/4h

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Skin Corrosion/Irritation: Causes skin irritation. Product was tested in accordance with 49 CFR 173.137 and was determined to be non corrosive to skin.

Serious Eye Damage/Irritation: Causes serious eye damage. (pH: 1)

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Harmful if inhaled. Corrosive to mucus membranes.

Symptoms/Injuries After Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Exposure may produce an allergic reaction.

Information on Toxicological Effects - Ingredient(s)

ID50 and IC50 Data:

Hydrogen chloride (7647-01-0)	
LD50 Oral Rat	700 mg/kg
LD50 Dermal Rabbit	> 5010 mg/kg
LC50 Inhalation Rat (ppm)	781 ppm/4h (reported as 3124 ppm/1 h)
Oxalic acid (144-62-7)	
LD50 Oral Rat	375 mg/kg
LD50 Dermal Rat	20000 mg/kg
Hydrogen chloride (7647-01-0)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Oxalic acid (144-62-7)	
EC50 Daphnia 1	125 - 150 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Persistence and Degradability Not available

Bioaccumulative Potential

Oxalic acid (144-62-7)	
BCF fish 1	(no bioaccumulation)
Log Pow	-0.81 (at 30 °C)

Mobility in Soil Not available

Other Adverse Effects Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: RCRA Waste Code: D002 (Corrosive Material).

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG/IMDG

UN Number

UN-No. (DOT)	: 1789
UN-No. (TDG)	: UN1789
UN-No. (IMDG)	: 1789
UN-No. (IATA)	: 1789

UN Proper Shipping Name

Proper Shipping Name (DOT) : HYDROCHLORIC ACID

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Proper Shipping Name (TDG)	: HYDROCHLORIC ACID
Proper Shipping Name (IATA)	: HYDROCHLORIC ACID
Proper Shipping Name (IMDG)	: HYDROCHLORIC ACID
Transport Document Description (DOT)	: UN1789 HYDROCHLORIC ACID, 8, III
Transport Document Description (TDG)	: UN1789 HYDROCHLORIC ACID, 8, III
Transport Document Description (Adr) (IMDG/IATA)	: UN 1789 HYDROCHLORIC ACID, 8, III, (E)
Transport Hazard Class(es)	
Department Of Transportation (DOT) Hazard Classes	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard Labels (DOT)	: 8 - Corrosive



Packing Group (DOT)	: III - Minor Danger
DOT Special Provisions (49 CFR 172.102)	: A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP12 - This material is considered highly corrosive to steel.
DOT Packaging Exceptions (49 Cfr 173.xxx)	: 154
DOT Packaging Non Bulk (49 Cfr 173.xxx)	: 203
DOT Packaging Bulk (49 Cfr 173.xxx)	: 241
TDG Primary Hazard Classes	: 8 - Class 8 - Corrosives
Hazard Labels (TDG)	: 8 - Corrosive substances



Packing Group (TDG)	: III - Minor Danger
Explosive Limit And Limited Quantity Index	: 5
Passenger Carrying Road Vehicle Or Passenger Carrying Railway Vehicle Index	: 5
Class (IMDG)	: 8
Danger Labels (IMDG)	: 8



Packing Group (IMDG)	: III
Class (IATA)	: 8
Hazard Labels (IATA)	: 8

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Packing Group (IATA) : III - Minor Danger
Marine Pollutant : No

Additional Information

Emergency Response Guide (ERG) Number : 157
Other Information : This product meets the limited quantities exception as follows: DOT: Not regulated as dangerous goods except when transported by air or shipped in quantities greater than or equal to 5L. Otherwise, the above descriptions apply.

Transport by sea

Dot Vessel Stowage Location : C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel.
Dot Vessel Stowage Other : 8 - Glass carboys not permitted on passenger vessels
Limited Quantities (IMDG) : 1L
Special Provisions (IMDG) : 223
Excepted Quantities (IMDG) : E1
IBC Packing Instructions (IMDG) : IBC03
Packing Instructions (IMDG) : P001,LP01
Tank Instructions (IMDG) : T4
Tank Special Provisions (IMDG) : TP1
Stowage Category (IMDG) : C
EMS-NO. (1) : F-A
MFAG-NO : 157
EMS-NO. (2) : S-B

Air transport

DOT Quantity Limitations Passenger Aircraft/Rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo Aircraft Only (49 CFR 175.75) : 60 L
CAO Packing Instructions (IATA) : 856
CAO Max Net Quantity (IATA) : 60L
PCA Packing Instructions (IATA) : 852
PCA Limited Quantities (IATA) : Y841
PCA Limited Quantity Max Net Quantity (IATA) : 1L
PCA Max Net Quantity (IATA) : 5L
PCA Excepted Quantities (IATA) : E1
CAO Max Net Quantity (IATA) : 60L
CAO Packing Instructions (IATA) : 856
Special Provision (IATA) : A3
Erg Code (IATA) : 8L
Instruction "cargo" (ICAO) : 855
Instruction "cargo" - Limited Quantities (ICAO) : 30L
Instruction "passenger" (ICAO) : 851
Instruction "passenger" - Limited Quantities (ICAO) : 1L

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Concentrated Descaling Engine Flush	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Hydrogen chloride (7647-01-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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Listed on SARA Section 302 (Specific toxic chemical listings)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	500 (gas only)
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Oxalic acid (144-62-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

Dibutyl thiourea (109-46-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Hydrogen chloride (7647-01-0)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute and Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min and 8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities, Threshold Quantities, and Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Florida - Essential Chemicals List
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations and Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Ceilings
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1 and 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1 and 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TEELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - Ceilings
U.S. - Michigan - Polluting Materials List
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - Ceilings
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour and Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - Ceilings
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - Ceilings
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour and Annual

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U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - Ceilings
U.S. - Texas - Effects Screening Levels - Long Term and Short Term
U.S. - Vermont - Permissible Exposure Limits - Ceilings
U.S. - Washington - Permissible Exposure Limits - Ceilings
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

Oxalic acid (144-62-7)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min and 8 hr)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations and Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - STELs and TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs and TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour and Annual
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour and 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - STELs and TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - STELs and TWAs
U.S. - Washington - Permissible Exposure Limits - STELs and TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Dibutyl thiourea (109-46-6)

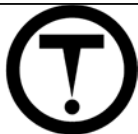
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Canadian Regulations

Concentrated Descaling Engine Flush

WHMIS Classification

Class E - Corrosive Material
Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
Class D Division 2 Subdivision B - Toxic material causing other toxic effects



Hydrogen chloride (7647-01-0)

Listed on the Canadian DSL (Domestic Substances List) inventory.
Listed on the Canadian Ingredient Disclosure List

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WHMIS Classification	Class A - Compressed Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material
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Oxalic acid (144-62-7)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Listed on the Canadian Ingredient Disclosure List

WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class E - Corrosive Material
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Dibutyl thiourea (109-46-6)

Listed on the Canadian DSL (Domestic Substances List) inventory.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 10/23/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

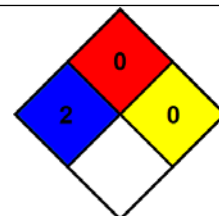
GHS Full Text Phrases:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H290	May be corrosive to metals
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard : 0 - Materials that will not burn.

NFPA Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.