# SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

1. **Product Name:** TOOL-BLACK® LIQUID
2. **Chemical Name:** Acid Mixture
3. **Synonyms:** 45109, 45110, 45112, 45117
4. **Trade Names:** Tool-Black® Liquid
5. **Product Use:** Solution for Blackening Iron and Steel
6. **Distributor’s Name:** Precision Brand Products, Inc.
7. **Distributor’s Address:** 2250 Curtiss Street, Downers Grove IL 60515 USA
8. **Emergency Phone:** ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (855) 281-1742
9. **Business Phone / Fax:** +1 (630) 969-7200 / +1 (630) 969-0310

## 2. HAZARDS IDENTIFICATION

### 2.1 Hazard Identification:

This product is classified as a hazardous substance and as dangerous goods according to the classification criteria of [NOHSC: 1088 (2004)] and ADG Code (Australia).

**DANGER! TOXIC IF SWALLOWED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE RESPIRATORY IRRITATION. VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.**

Classification: Acute Toxicity 3; Skin Corrosion 1B; Acute Tox. 4; Chronic Aquatic Toxicity 1

### 2.2 Label Elements:

**Hazard Statements (H):** H301 – Toxic if swallowed. H314 – Causes severe skin burns and eye damage. H319 – Causes serious eye irritation. H335 – May cause respiratory irritation. H410 – Very toxic to aquatic life with long lasting effects.


**Other Warnings:** In the event of an exposure or medical inquiry involving this product, please contact a physician or local poison control center, who may seek advice from the U.S. manufacturer, and show them this SDS. Keep out of reach of children.

## 3. COMPOSITION & INGREDIENT INFORMATION

<table>
<thead>
<tr>
<th>CHEMICAL NAME(S)</th>
<th>CAS No.</th>
<th>RTECS No.</th>
<th>EINECS No.</th>
<th>%</th>
<th>ACGIH</th>
<th>NOHSC</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>7732-18-5</td>
<td>ZC0110000</td>
<td>231-791-2</td>
<td>60-100</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
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<tr>
<td>SELENIUM OXIDE</td>
<td>7783-00-8</td>
<td>VS7175000</td>
<td>231-974-7</td>
<td>1-5</td>
<td>(0.2)</td>
<td>NA</td>
<td>(0.2)</td>
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<tr>
<td>COPPER (II) NITRATE, TRHYDRATE</td>
<td>10031-43-3</td>
<td>Gi7875000</td>
<td>221-838-6</td>
<td>1-5</td>
<td>(1)</td>
<td>NA</td>
<td>NF</td>
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<tr>
<td>NITRIC ACID</td>
<td>7697-37-2</td>
<td>QU5775000</td>
<td>231-714-2</td>
<td>1-5</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>HYDROCHLORIC ACID</td>
<td>7647-01-0</td>
<td>MW4025000</td>
<td>231-595-7</td>
<td>1-5</td>
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<td>NF</td>
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<tr>
<td>PHOSPHORIC ACID</td>
<td>7664-38-2</td>
<td>TB6300000</td>
<td>231-633-2</td>
<td>1-5</td>
<td>(1)</td>
<td>(3)</td>
<td>NF</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 First Aid:

Ingestion: Do not induce vomiting. Call +1 (855) 281-1742 for emergency medical advice. If vomiting occurs, keep victim’s head lowered (forward) to keep vomit from entering the lungs. Call 911 for emergency medical transport if any symptoms noted.

Eyes: Remove and discard contact lenses if worn and flush eyes with large amounts of water for at least 20 minutes. Seek immediate medical attention when done rinsing eyes.

Skin: Remove contaminated clothing and wash exposed skin with large amounts of soap and water. Seek medical attention if any blistering, swelling or open sores develop.

Inhalation: Move victim to fresh air. Contact emergency medical services (911) if any difficulty in breathing occurs or if victim loses consciousness.

4.2 Effects of Exposure:

Eyes: Severe or permanent eye damage.

Skin: Burns upon direct contact.

Ingestion: Severe burns of mouth, throat, stomach.

Inhalation: Severe irritation or burns in respiratory tract and mucous membranes. Possible lung damage.

4.3 Symptoms of Overexposure:

Eyes: Redness, burning, irritation, and swelling around eyes

Skin: Redness, burning, itching, rash, blistering of skin.

Ingestion: Nausea, vomiting, severe abdominal pain.

Inhalation: Coughing, wheezing, swelling of throat, irritation in mucous membranes, difficulty breathing.

4.4 Acute Health Effects:

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if swallowed. Causes burns. May be harmful if absorbed through skin.

4.5 Chronic Health Effects:

May damage the nervous system, kidney and/or liver.

4.6 Target Organ(s):

Eyes, skin, nervous system, kidneys, liver, respiratory system.

4.7 Medical Conditions Aggravated by Exposure:

Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, and respiratory system) or impaired kidney function may be more susceptible to the effects of this substance. 1°

4.8 Notes to Physician:

This product contains Selenious Acid and is potentially fatal if ingested even in small amounts. 24-hour admission should be considered in asymptomatic or minimally symptomatic patients as delayed toxic effects including pulmonary edema and multi-organ failure may occur. 24/7 medical toxicology consultation is available at +1 (855) 281-1742.

5. FIREFIGHTING MEASURES

5.1 Fire & Explosion Hazards:

Non-flammable. May react with metals to release hydrogen gas, which can form explosive mixtures with air. May intensity fire; oxidizer. Keep/Store away from clothing/combustible materials.

5.2 Extinguishing Methods:

Use fire-extinguishing media appropriate for surrounding materials.

5.3 Firefighting Procedures:

As with any fire, firefighters should wear appropriate protective equipment including a MSHA/NIOSH approved or equivalent self-contained breathing apparatus (SCBA) and protective clothing. Fight fires as for surrounding materials. Hazardous decomposition products may be released. Thermal degradation may produce oxides of carbon, phosphorous, selenium and/or nitrogen, hydrocarbons and/or derivatives. Fire should be fought from a safe distance. Keep coolers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fire fire upright. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway.

6. ACCIDENTAL RELEASE MEASURES

6.1 Spills:

Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment (PPE). Use safety glasses or safety goggles and face shield; use gloves and other protective clothing (e.g., apron, boots, etc.) to prevent skin contact.

Small Spills: Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible, inert material such as vermiculite or sand to soak up the product and place into a container for later disposal.

Large Spills: Keep incompatible materials (e.g., organics such as oil) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Recover as much free liquid as possible and collect in an acid-resistant container. Use absorbent to pick up residue. Avoid exposure to heat and flame. Use only in ventilated areas. Keep out of the reach of children. Immediately clean-up and decontaminate any spills or residues.

7. HANDLING & STORAGE INFORMATION

7.1 Work & Hygiene Practices:

Avoid breathing mists or spray. Avoid eye and skin contact. Wear protective equipment when handling product. Keep out of the reach of children. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling. Do not expose to heat and flame. Use only in ventilated areas. Keep out of the reach of children. Immediately clean-up and decontaminate any spills or residues.

7.2 Storage & Handling:

Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Store in acid-resistant containers. Keep containers covered when not in use. Avoid temperatures above 40°C (120°F). Keep away from incompatible substances (see Section 10). Protect containers from physical damage.

7.3 Special Precautions:

Empty containers may retain hazardous product residues. Keep/Store away from clothing/combustible materials.
8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 Exposure Limits: ppm (mg/m³)

<table>
<thead>
<tr>
<th>CHEMICAL NAME(S)</th>
<th>ACGIH</th>
<th>NOHSC</th>
<th>OSHA</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV</td>
<td>STEL</td>
<td>ES-TWA</td>
<td>ES-STEL</td>
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<td>NF</td>
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<tr>
<td>Copper (II) Nitrate, Rihydrate</td>
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<td>NF</td>
<td>NF</td>
</tr>
<tr>
<td>Nitric Acid</td>
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</tr>
<tr>
<td>Hydrochloric Acid</td>
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<td>NA</td>
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<td>NF</td>
</tr>
<tr>
<td>Phosphoric Acid</td>
<td>(1)</td>
<td>(3)</td>
<td>NF</td>
<td>NF</td>
</tr>
</tbody>
</table>

8.2 Ventilation & Engineering Controls: Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station).

8.3 Respiratory Protection: In instances where vapors or sprays of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia.

8.4 Eye Protection: Safety glasses with side shields must be used when handling or using this product. A protective face shield is also recommended.

8.5 Hand Protection: Wear protective, chemical-resistant gloves (e.g., neoprene) when using or handling this product.

8.6 Body Protection: A chemical resistant apron and/or protective clothing are recommended when handling or using this product.

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Appearance: Clear liquid

9.2 Odor: Odorless

9.3 Odor Threshold: 0.29 to 0.98 ppm (Nitric Acid)

9.4 pH: 0.85

9.5 Melting Point/Freezing Point: NA

9.6 Initial Boiling Point/Boiling Range: > 100 °C (> 212 °F)

9.7 Flashpoint: NA

9.8 Upper/Lower Flammability Limits: NA

9.9 Vapor Pressure: NA

9.10 Vapor Density: < 1.0 (air = 1.0)

9.11 Relative Density: 1.055

9.12 Solubility: Complete (water)

9.13 Partition Coefficient (log P₂): NA

9.14 Autoignition Temperature: NA

9.15 Decomposition Temperature: NA

9.16 Viscosity: NA

9.17 Other Information: Evaporation Rate: < 1.0 (ethyl ether = 1.0)

10. STABILITY & REACTIVITY

10.1 Stability: Stable at normal temperatures.

10.2 Hazardous Decomposition Products: Reaction with organics and strong reducing agents can produce organoselenides and hydrogen selenide. Thermal decomposition may produce selenium, nitrogen, phosphoric and copper oxides.

10.3 Hazardous Polymerization: Will not occur.

10.4 Conditions to Avoid: Excessive heat, shock, friction.

10.5 Incompatible Substances: Cyanides, water-reactive substances, strong reducing agents, chlorinated cleaners or sanitizers, combustible organic materials, most metals.

11. TOXICOLOGICAL INFORMATION

11.1 Routes of Entry: Inhalation: YES Absorption: YES Ingestion: YES

11.2 Toxicity Data: Phosphoric Acid: LD₅₀ (oral, rat) = 1,530 mg/kg; LD₅₀ (oral, rat) = 4,640 mg/kg; Hydrochloric Acid: LD₅₀ (oral, rat) = 900 mg/kg; Copper Nitrate Trihydrate: LD₅₀ (oral, rat) = 794 mg/kg

11.3 Acute Toxicity: See Section 2.4

11.4 Chronic Toxicity: See Section 2.5

11.5 Suspected Carcinogen: Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to humans)

11.6 Reproductive Toxicity: This product is not reported to cause reproductive toxicity in humans.
11. TOXICOLOGICAL INFORMATION – cont’d

11.7 Irritancy of Product: See Section 4.2
11.8 Biological Exposure Indices: NE
11.9 Physician Recommendations: Treat symptomatically.

12. ECOLOGICAL INFORMATION

12.1 Environmental Stability: Hydrochloric Acid: LC_{50} (gambusia affinis-mosquito fish, 96h) - 282 mg/L
12.2 Effects on Plants & Animals: No data available.
12.3 Effects on Aquatic Life: Very toxic to aquatic life with lasting effects. Phosphoric Acid: EC_{50} (Daphnia magna, 12h) = 4.6 mg/L

13. DISPOSAL CONSIDERATIONS

13.1 Waste Disposal: Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropriate disposal method for the ingredients listed in Section 2. Any disposal practice must be in compliance with local, state, and federal laws and regulations. Contact the appropriate agency for specific information. Treatment, transport, storage and disposal of hazardous waste must be provided by a licensed facility or waste hauler.

14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1 49 CFR (GND): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L)
14.2 IATA (AIR): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 0.1 L)
14.3 IMDG (OCE): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L)
14.4 TDG (Canadian GND): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L)
14.5 ADR/RID (EU): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L)
14.6 SCT (MEXICO): UN3264, LIQUIDOS, CORROSIVOS, ACIDO, INORGANICO, N.E.P. (ACIDO SELENIO, ACIDO FOSFORICO), 8, II, (CANTIDAD LIMITADA, IP VOL ≤ 1.0 L)
14.7 ADGR (AUS): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L)

15. REGULATORY INFORMATION

15.1 SARA Reporting Requirements: This product contains Nitric Acid, Hydrochloric Acid, Selenious Acid, Cupric Nitrate, and Phosphoric Acid, substances subject to SARA Title III, section 313 reporting requirements.
15.2 SARA TPQ: 302 TPQ (Nitric Acid): 1,000 lbs (454 kg)
15.3 TSCA Inventory Status: The components of this product are listed on the TSCA Inventory.
15.4 CERCLA Reportable Quantity: Selenious Acid: 10 lbs (4.54 kg); Nitric Acid: 1,000 lbs (454 kg); Phosphoric Acid: 5,000 lbs (2,270 kg); Hydrochloric Acid: 5,000 lbs (2,270 kg); Cupric Nitrate: 100 lbs (45.4 kg)
15.5 Other Federal Requirements: NA
15.6 Other Canadian Regulations: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS Class E (Corrosive Material), WHMIS Class D1 (Materials Causing Immediate and Serious Toxic Effects).
15.7 State Regulatory Information: Selenious Acid is found on the following state criteria lists: Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), Pennsylvania Right-to-Know List (PA), and Wisconsin Hazardous Substances List (WI)
Nitric Acid is found on the following state criteria lists: FL, MA, MN, New Jersey Right-to-Know List (NJ), PA, and Washington Permissible Exposures List (WA)
Hydrochloric Acid is found on the following state criteria lists: FL, MA, MN, NJ, PA, WA
Phosphoric Acid is found on the following state criteria lists: FL, MA, MN, PA
No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI).
15.8 Other Requirements: NA
16. OTHER INFORMATION

16.1 Other Information: DANGER! TOXIC IF SWALLOWED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE RESPIRATORY IRRITATION. VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS. Causes severe burns to eyes and skin. Avoid excessive heat. Do not breathe dust/fumes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.

16.2 Terms & Definitions: See last page of this Safety Data Sheet.

16.3 Disclaimer: This Safety Data Sheet is offered pursuant to OSHA’s Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate’s & Precision Brand Products, Inc.’s knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

16.4 Prepared for: Precision Brand Products, Inc.
2250 Curtiss Street
Downers Grove, IL 60515 USA
Tel: +1 (630) 969-7200
Fax: +1 (630) 969-0310
http://www.precisionbrand.com

16.5 Prepared by: ShipMate, Inc.
P.O. Box 787
Sisters, Oregon 97759-0787 USA
Tel: +1 (310) 370-3600
Fax: +1 (310) 370-5700
http://www.shipmate.com
DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No.</td>
<td>Chemical Abstract Service Number</td>
</tr>
<tr>
<td>RTECS No.</td>
<td>Registry of Toxic Effects of Chemical Substances Number</td>
</tr>
<tr>
<td>EINECS No.</td>
<td>European Inventory of Existing Commercial Chemical Substances Number</td>
</tr>
</tbody>
</table>

EXPOSURE LIMITS IN AIR:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference on Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>IDLH</td>
<td>Immediately Dangerous to Life and Health</td>
</tr>
<tr>
<td>NOHSC</td>
<td>National Occupational Health and Safety Commission (Australia)</td>
</tr>
<tr>
<td>OSHA</td>
<td>U.S. Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
</tbody>
</table>

FIRST AID MEASURES:

- CPR: Cardiopulmonary resuscitation - a method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Flammability &amp; Reactivity Ratings:</td>
</tr>
<tr>
<td>0</td>
<td>Minimal Hazard</td>
</tr>
<tr>
<td>1</td>
<td>Slight Hazard</td>
</tr>
<tr>
<td>2</td>
<td>Moderate Hazard</td>
</tr>
<tr>
<td>3</td>
<td>Severe Hazard</td>
</tr>
<tr>
<td>4</td>
<td>Extreme Hazard</td>
</tr>
</tbody>
</table>

PERSONAL PROTECTION RATINGS:

- Class A: Safety Glasses
- Class B: Splash Goggles
- Class C: Face Shield & Protective Eyewear
- Class D: Gloves
- Class E: Safety Hood
- Class F: Airline Hood/Mask or SCBA

OTHER STANDARD ABBREVIATIONS:

- Carc: Carcinogenic
- Irrit: Irritant
- NA: Not Available
- NR: No Results
- NO: Not Determined
- NE: Not Established
- NF: Not Found
- SCBA: Self-Contained Breathing Apparatus
- Sens: Sensitization
- STOT RE: Specific Target Organ Toxicity – Repeat Exposure
- STOT SE: Specific Target Organ Toxicity – Single Exposure

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

<table>
<thead>
<tr>
<th>Flammability Limits in Air:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autoignition Temperature</td>
</tr>
<tr>
<td>LEL - Lower Explosive Limit</td>
</tr>
<tr>
<td>UEL - Upper Explosive Limit</td>
</tr>
</tbody>
</table>

HAZARD RATINGS:

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Minimal Hazard</td>
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<tr>
<td>1</td>
<td>Slight Hazard</td>
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<tr>
<td>2</td>
<td>Moderate Hazard</td>
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<tr>
<td>3</td>
<td>Severe Hazard</td>
</tr>
<tr>
<td>4</td>
<td>Extreme Hazard</td>
</tr>
</tbody>
</table>

TOXICOLOGICAL INFORMATION:

- LD₅₀: Lethal Dose (solids & liquids) which kills 50% of the exposed animals
- LC₅₀: Lethal concentration (gases) which kills 50% of the exposed animal
- ppm: Concentration expressed in parts per million
- TDₖ: Lowest dose to cause a symptom
- TCLo: Lowest concentration to cause a symptom
- TDₖ, TCₖ, LCₖ, or TLₖ: Lowest dose (or concentration) to cause lethal or toxic effects
- IARC: International Agency for Research on Cancer
- NTP: National Toxicology Program
- RTECS: Registry of Toxic Effects of Chemical Substances
- BCF: Bioconcentration Factor
- 

REGULATORY INFORMATION:

- WHMIS: Canadian Workplace Hazardous Material Information System
- DOT: U.S. Department of Transportation
- TC: Transport Canada
- EPA: U.S. Environmental Protection Agency
- DSL: Canadian Domestic Substance List
- NDSL: Canadian Non-Domestic Substance List
- PSL: Canadian Priority Substances List
- TSCA: U.S. Toxic Substance Control Act
- WLG: Wassergefährdungsklassen (German Water Hazard Class)

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>Compressed Flammable Oxidizing Toxic Irritation Infectious Corrosive Reactive</td>
</tr>
<tr>
<td>Class B</td>
<td>Explosive Flammable Oxidizing Pressurized Corrosive Toxic Harmful Initiating Health Hazard Environment</td>
</tr>
<tr>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>Class D1</td>
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<tr>
<td>Class E</td>
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<tr>
<td>Class F</td>
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CLP/GHS (1272/2008/EC) PICTOGRAMS: