

## Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	<b>Flammable material; avoid heat and sources of ignition.</b> <b>Corrosive to eyes and skin on contact.</b> <b>Harmful compound, minimize exposure.</b> <b>Lachrymator.</b> <b>Air and light sensitive material.</b>	     

**Section I. Chemical Product and Company Identification**

Chemical Name	<b>Hydrobromic Acid, 30%</b> (in Acetic Acid Solution)		
Catalog Number	H0182	Supplier	TCI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	Hydrogen bromide, acetic acid solution (30%)		
Chemical Formula	HBr/CH <sub>3</sub> CO <sub>2</sub> H		
CAS Number	10035-10-6, 64-19-7		
	<b>In case of Emergency Call</b> <b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>		

**Section II. Composition and Information on Ingredients**

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Hydrobromic Acid, 30% (in Acetic Acid Solution)	10035-10-6, 64-19-7	32%	Not available.	MW3850000 Rat LC <sub>50</sub> (inhalation): 2858 ppm/1H AF1225000 Rat LD <sub>50</sub> (oral) 3310 mg/kg Rabbit LD <sub>50</sub> (dermal) 1060 mg/kg

**Section III. Hazards Identification**

Acute Health Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> : Reproductive effects, for acetic acid: Rat (oral) 700 mg/kg. Duration: female 18 days after birth. Effects on newborn: Behavioral. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

**Section IV. First Aid Measures**

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. <b>WARNING:</b> It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	DO NOT induce vomiting. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

**Section V. Fire and Explosion Data**

Flammability	Combustible.	Auto-Ignition	Not available.
Flash Points	37°C (98.6°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ), halogenated compounds.		
Fire Hazards	Reactive with strong oxidizers. Vapors may travel to source of ignition and flash back. Closed containers may explode from the heat of a fire. Highly flammable in presence of open flames and sparks, of shocks, of heat.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.		

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions	Flammable liquid. Corrosive liquid. Harmful material. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.
----------------------------	--

**Section VII. Handling and Storage**

Handling and Storage Information	FLAMMABLE. CORROSIVE. LACHRYMATOR. HARMFUL. AIR AND LIGHT SENSITIVE. Reactive with strong oxidizers; may be ignited by heat, sparks, or flames. Vapors may travel to source of ignition and flash back. Tightly seal container and store in a cool place. Closed containers may explode from heat of a fire. Empty containers may pose a fire risk. Evaporate residue under a fume hood if possible. Ground all equipment containing material. Keep container dry. Keep away from heat and sources of ignition. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas, fumes, vapor or spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively. Avoid contact with skin and eyes. Always store away from incompatible compounds such as oxidizing agents, alkalis (bases).
----------------------------------	--

**Section VIII. Exposure Controls/Personal Protection**

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Face shield. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Light-yellow viscous liquid.	Solubility	Soluble in cold water, hot water, alcohol.
Specific Gravity	1.354		
Molecular Weight	80.91/59.04	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	11.4 mm of Hg (@ 20°C)
Melting Point	Not available.	Vapor Density	2.8 (Air = 1)
Refractive Index	Not available.	Volatility	100% (v/v).
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

**Section X. Stability and Reactivity Data**

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Air and light sensitive. Avoid excessive heat and light.
Incompatibilities	Reactive with oxidizing agents, alkalis (bases).

**Section XI. Toxicological Information**

RTECS Number	MW3850000, AF1225000
Routes of Exposure	Eye contact. Inhalation. Ingestion. Skin contact.
Toxicity Data	MW3850000 Rat LC <sub>50</sub> (inhalation): 2858 ppm/1H AF1225000 Rat LD <sub>50</sub> (oral) 3310 mg/kg Rabbit LD <sub>50</sub> (dermal) 1060 mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY:</b> Reproductive effects, for acetic acid: Rat (oral) 700 mg/kg. Duration: female 18 days after birth. Effects on newborn: Behavioral. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.
Acute Toxic Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	Not available.

**Section XIII. Disposal Considerations**

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.
----------------	--

**Section XIV. Transport Information**

DOT Classification	DOT CLASS 8: Corrosive liquid. DOT CLASS 3: Flammable liquid.
PIN Number	UN2920
Proper Shipping Name	Corrosive liquid, flammable, n.o.s.
Packing Group (PG)	II
DOT Pictograms	 

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This product is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory.
WHMIS Classification (Canada)	WHMIS CLASS B-3: Combustible liquid with a flash point between 37.8 °C (100 °F) and 93.3 °C (200 °F). WHMIS CLASS E: Corrosive liquid.
EINECS Number (EEC)	233-113-0
EEC Risk Statements	R34- Causes burns. R37- Irritating to respiratory system.
Japanese Regulatory Data	Not available.

**Section XVI. Other Information****Version 1.0****Validated on 11/28/2005.****Printed 7/18/2006.****Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

*Printed 7/18/2006.*