Material Safety Data Sheet

Hydrobromic acid, ca. 48 wt% solution in water, tech.

ACC# 96150

Section 1 - Chemical Product and Company Identification

MSDS Name: Hydrobromic acid, ca. 48 wt% solution in water, tech.
Catalog Numbers: AC123170000, AC123170010, AC123170025, AC123170050
Synonyms: Hydrogen bromide
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
10035-10-6	Hydrobromic acid	48 wt%	233-113-0
7732-18-5	Water		231-791-2

Hazard Symbols: C
Risk Phrases: 34 37

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: yellow to light brown clear liquid. Light sensitive. Air sensitive.
Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes severe eye burns. May result in corneal injury. Causes redness and pain.
Skin: Causes skin burns. May be absorbed through the skin. Causes redness and pain.
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Causes gastrointestinal tract burns. May cause respiratory failure. May cause circulatory system failure. May cause hemorrhaging of the digestive tract. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. Substance poses serious aspiration hazard.
Inhalation: Causes delayed lung injury. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Causes chemical burns to the respiratory tract. May cause effects similar to those described for ingestion. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible. Reacts with most metals to form highly flammable hydrogen gas which can form explosive mixtures with air.
Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Provide ventilation.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Ground and bond containers when transferring material. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.
Storage: Store in a cool, dry place. Store in a tightly closed container. Keep away from metals. Corrosives area. Store in glass containers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hydrobromic acid	3 ppm Ceiling	30 ppm IDLH	3 ppm TWA; 10 mg/m3 TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Hydrobromic acid: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Not available.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Appearance: yellow to light brown
Odor: irritating odor - strong odor
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: 2.8 (air=1)
Evaporation Rate:>1 (ether=1)
Viscosity: Not available.
Boiling Point: 126 - 128 deg C @ 760 mmHg
Freezing/Melting Point:-11 deg C
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density:1.4800g/cm3
Molecular Formula:HBr
Molecular Weight:80.90

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, light, exposure to air, contact with water, excess heat.
Incompatibilities with Other Materials: Metals, strong oxidizing agents, strong bases, ammonia, fluorine, ozone.
Hazardous Decomposition Products: Hydrogen bromide, bromine fumes.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 10035-10-6: MW3850000
CAS# 7732-18-5: ZC0110000
LD50/LC50:
CAS# 10035-10-6:
Inhalation, mouse: LC50 = 814 ppm/1H;
Inhalation, rat: LC50 = 2858 ppm/1H;

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:
CAS# 10035-10-6: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.

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Neurotoxicity: No data available.
Mutagenicity: No data available.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

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

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	HYDROBROMIC ACID				No information available.
Hazard Class:	8				
UN Number:	UN1788				
Packing Group:	II				

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 10035-10-6 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 10035-10-6: acute, chronic.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 10035-10-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
C
Risk Phrases:
R 34 Causes burns.
R 37 Irritating to respiratory system.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where

possible).
S 7/9 Keep container tightly closed and in a well-ventilated place.

WGK (Water Danger/Protection)
CAS# 10035-10-6: 1
CAS# 7732-18-5: No information available.
Canada - DSL/NDSL
CAS# 10035-10-6 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.
Canada - WHMIS
This product does not have a WHMIS classification.
Canadian Ingredient Disclosure List
CAS# 10035-10-6 is listed on the Canadian Ingredient Disclosure List.
Exposure Limits
CAS# 10035-10-6: OEL-AUSTRALIA:TWA 3 ppm (10 mg/m3) OEL-AUSTRIA:TWA 5 ppm (17 mg/m3) OEL-BELGIUM:STEL 3 ppm (9.9 mg/m3) OEL-DENMARK:TWA 3 ppm (10 mg/m3) OEL-FINLAND:STEL 3 ppm (10 mg/m3);Skin OEL-GERMANY :TWA 5 ppm (17 mg/m3) OEL-THE NETHERLANDS:TWA 3 ppm (10 mg/m3) OEL-THE PHILIPPINES:TWA 3 ppm (10 mg/m3) OEL-POLAND:TWA 7 mg/m3 OEL-RUSSIA:STEL 2 mg/m3 OEL-SWITZERLAND:TWA 3 ppm (10 mg/m3);STEL 6 ppm (20 mg/m3) OEL-TURKEY:TWA 5 ppm (17 mg/m3) OEL-UNITED KINGDOM:TWA 3 ppm (10 mg/m3) OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 6/08/1998
Revision #3 Date: 6/24/2003