

SECTION

NAME

Hydrochloric Acid, 3% Solution Hydrochioric Acid, Water Solution

MATERIAL SAFETY DATA SHEET

Effective Date: MSDS No.:

24 HOUR EMERGENCY ASSISTANCE

HH0140 January 15, 2008

HEALTH HAZARD DATA

HH0140

Threshold Limited Value

SECTION V

Hydrogen chloride as gas or furne: TWA Ceiling Limits

TWA: 5 ppm; 7 mg/m³ (AIR). (ACGIH 2001).

Effects of Overexposure

Irritant to eyes, skin and mucous membranes. Irritant to eyes, skin and mucous membranes. May cause burns. Vapors may cause coughing, choking, inflammation of the respiratory tract. Exercise appropriate procedures to minimize potential hazards May cause burns to mouth, throat, esophagus and gastrointestinal tract.

larget organs: Hespiratory system, skin, eyes, lungs

Emergency and First Aid Procedures

anything by mouth to an unconscious person. EYES: Check for and remove contact lenses. Flush thoroughty vomiting only if advised by appropriate medical personnel. Never give INGESTION: Call physician or Polson Control Center immediately. Induce

medical attention. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is with water for at least 15 minutes, litting upper and lower eyelids occasionally. Get immediate medical attention. SKIN: Remove contaminated clothing. Flush thoroughly with mild soap and water. If imitation occurs, get difficult, give oxygen. Get medical attention.

strong oxidants.	Will react with most metals, alkalies, strong oxidants	W IIIW	ncompatibility Materials to Avoid)	Incompati (Materials
Excessive temperatures or near.		×	Stable	
	Conditions to Avoid		Unstable	Stability
	REACTIVITY DATA	æ	Z S	SECTION VI

Hazardous Decomposition Products Hazardous Polymerization May Occur Will Not Occur Conditions to Avoid evolved by reaction with metals. Hydrogen chloride gas may be evolved by heating. Hydrogen gas Not applicable

SECTION VI OR LEAK PROCEDURES

Steps to be taken in case

Vapor Pressure (mm Hg)

0.7 (water) 14 (water)

Complete.

Boiling Point (°F) Melting Point (°F)

SECTION III

HARMFUL IF SWALLOWED. IRRITANT TO EYES AND MUCOUS MEMBRANES

PHYSICAL

DATA

Freezes approx. 0°C (32°F)

Specific Gravity (H₂O = 1)

Approx.

50

Approx. 100°C (212°F)

Evaporation Rate

97%

Slightly less than 1.

WARNING! CORROSIVE!

Principal Component(s)

Hydrochloric Acid: (CAS No.

7647-01-0)

(CAS No. 7732-18-5)

97% 3%

None established. See Section V. C.A.S. No.

Mixture. See Section II.

SECTION II

INGREDIENTS OF MIXTURES

%

TLV Units

HAZARD RATING
MINIMAL SUGHT MODERATE
2

SERIOUS 3

NFPA

Day 585-226-6177 CHEMTREC 800-424-9300

Fire Health

Reactivity

N 0

SIMH SEVERE 4

Unit Size Formula Synonyms Chemical Product

up to 3.785 Lt.

Mixture. See Section II.

Solubility in Water Vapor Density (Air=1)

Appearance & Odor

Clear, colorless liquid; may have acrid odor

FIRE AND EXPLOSION HAZARD DATA

Flammable Limits in Air % by Volume N/A

SECTION IV

material is released or spilled Carefully neutralize with sodium bicarbonate and flush to sewer with copious amounts of water.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

sewer with copious amounts of water Carefully neutralize with sodium bicarbonate, soda ash, or lime and flush to

SECTION VIII SPECIAL PROTECTION INFORMATION

Extinguisher Media

Use any media suitable for extinguishing supporting fire

Flash Point

Method Used)

Non-flammable

PROCEDURES

SPECIAL FIREFIGHTING

Respiration Protection (Specify Type) None needed in normal laboratory handling. In misty conditions work in ventilation hood or wear NIOSH/MSHA-approved respirator.

Ventilation Local Exhaust ପ୍ରି neral) None needed. Vone needed Other Special S

Smock, apron, eye wash station, goggies, ventilation hood, proper gloves SPECIAL PRECAUTIONS

Other Protective

Protective Gloves

Hubber

Eye Protection

Goggles and face shield.

SECTION IX

Precautions to be Taken in Handling & Storing sep container lightly closed when not in use

EXPLOSION HAZARDS

hydrogen which may form explosive mixtures with air.

Non-combustible, but contact with common metals produce

UNUSUAL FIRE AND

(2004 EMERGENCY RESPONSE GUIDEBOOK, RSPA P 5800.9, GUIDE PAGE NO. 157)

breathing apparatus and full protective clothing

In fire conditions, wear a NIOSH/MSHA-approved self-contained

Wash thoroughly after handling Store in a cool place

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Remove and wash contaminated clothing.

The information contained herein is furnished without warrany of any land. Employees should then and must make independent determinations of suitability and competeness of informati health of employees. - Hazardous Metreirals industrial Sandards. Printed on nocyclob pages. Revision No. Date 01/15/08 Approved Employers should use this information only as a supplement to other information gathered by eness of information from all sources to assure proper use of these materials and the safety and James A. Bertsch Chemical Safety Coordinator JAB

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20 D.O.T. Hydrochloric acid, 8, UN1789, PG II, Ltd Qty ≤ 1 Lt.



80 Northwest Boulevard Nashua, NH 03063 1-800-225-3739

MATERIAL SAFETY DATA SHEET

MSDS No.: HI Effective Date: HH0090 HH0093 HH0094 HH0095 HH0130 HH0140 HH0150 HH0155 HH0158 HH0160 HH0162 Date: January 10, 2007

24 HOUR EMERGENCY ASSISTANCE HAZARD RATING NFPA CHEMTREC 800-424-9300 Day 585-226-6177 MODERATE SERIOUS Fire Health Reactivity SINH SEVERE N 0

INGREDIENTS OF MIXTURES

C.A.S. No.

Mixture. See Section II.

Unit Size

up to 3.785 Lt.

Synonyms Product

Hydrochloric Acid, Water Solution Hydrochloric Acid Solution

Chemical

SECTION I

NAME

Formula

Mixture. See Section II.

Principal Component(s) WARNING! CORROSIVE! Water: (CAS No. 7732-18-5) Hydrochloric Acid: (CAS No. 7647-01-0) 90 - 98.49% 1.51 - 10% % None established. See Section V. TLV Units

HARMFUL IF SWALLOWED. IRRITANT TO EYES AND MUCOUS MEMBRANES

Vapor Density (Air=1) Boiling Point (°F) Melting Point (°F) Solubility in Water Vapor Pressure (mm Hg) Appearance & Odor SECTION III 0.7 (water) 14 (water) Complete. Freezes approx. 0°C (32°F) Approx. 100°C (212°F) PHYSICAL DATA Percent Volatile by Volume (%) Evaporation Rate Specific Gravity (H2O = 1) Water =1) Slightly less than 1. 90 - 98.49% Approx. 1.0

Clear, colorless liquid; may have acrid odor.

Extinguisher Method Used) Tash Point SECTION IV Use any media suitable for extinguishing supporting fire Von-flammable FIRE AND EXPLOSION HAZARD Flammable Limits in Air % by Volume N/A DATA

SPECIAL FIREFIGHTING PROCEDURES

breathing apparatus and full protective clothing. In fire conditions, wear a NIOSH/MSHA-approved self-contained

(2004 EMERGENCY RESPONSE GUIDEBOOK, RSPA P 5800.9, GUIDE PAGE NO. 157)

EXPLOSION HAZARDS UNUSUAL FIRE AND

hydrogen which may form explosive mixtures with air. Non-combustible, but contact with common metals produce

D.O.T. Hydrochloric acid, 8, UN1789, PG II, Ltd Qty ≤1 Lt.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

HIDOGO

Threshold Limited Value

Hydrogen chloride as gas or fume: TWA Celling Limits

TWA: 5 ppm; 7 mg/m³ (AIR). (ACGIH 2001).

Effects of Overexposure

firitant to eyes, skin and mucous membranes. May cause burns Vapors may cause coughing, choking, inflammation of the respiratory tract May cause burns to mouth, throat, esophagus and gastrointestinal tract.

Exercise appropriate procedures to minimize potential hazards.

Target organs: Respiratory system, skin, eyes, lungs.

First Aid Procedures Emergency and

vomiting only if advised by appropriate medical personnel. Never give INGESTION; Call physician or Poison Control Center immediately. Induce

medical attention. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention SKIN; Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get difficult, give oxygen. Get medical attention. anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly

Stability Incompatibility (Materials to Avoid) **SECTION VI** Unstable Stable Will react with most metals, alkalies, strong oxidants REACTIVITY DATA Conditions to Avoid Excessive temperatures or heat

Decomposition Products Hazardous

evolved by reaction with metals. Hydrogen chloride gas may be evolved by healing. Hydrogen gas

Hazardous Polymerization May Occur Will Not Occur Conditions to Avoid

Not applicable

SECTION VII SPILL OR LEAK PROCEDURES

material is released or spilled Steps to be taken in case

Carefully neutralize with sodium bicarbonate and flush to sewer with copious amounts of water

Waste Disposal Method

Upper

Discharge, treatment, or disposal may be subject to Federal, State or Local laws.

These disposal guidelines are intended for the disposal or catalog-size quantities only.

sewer with copious amounts of water Carefully neutralize with sodium bicarbonate, soda ash, or time and flush to

SECTION VIII SPECIAL PROTECTION INFORMATION

Protective Gloves Ventilation Respiration Protection (Specify Type) Mechanical (General) Local Exhaust or wear NIOSH/MSHA-approved respirator None needed in normal laboratory handling. In misty conditions work in ventilation hood None needed None needed. Eye Protection Special Š 8

Other Protective Smock, apron, eye wash station, goggles, ventilation hood, proper gloves

Goggles and face shield.

SECTION IX

Precautions to be Taken in Handling & Storing SPECIAL PRECAUTIONS

Wash thoroughly after handling Store in a cool place

Other Precautions (sep container tightly closed when not in usa Read label an container before using. Do not wear contact lenses when working with chemicat For laboratory use only. Not for drug, tood or household use. Keep out of reach of children.

Remove and wash contaminated clothing.

Revision No. Us Date 01/10/07 Approved James A. Bertsch Chemical Safety Coordinator JAB

The information contained herein is furnished without warranty of any land. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of subsidiary and compeleness of information from all sources to assure proper use of these materials and the safety and health of employers. Hazardous Auterials Andread Shouther Philosophic Philosophics (Hazardous Auterials Boundards) Bundurch, Philosophic Philosophics (Hazardous Auterials Bundurch, Philosophics) (Hazardous Auterials Bundurch, Philosophics)