

# Material Safety Data Sheet

## Hydrochloric Acid 2.000N

Effective 3/4/2003 Date

In Case of Emergency Call 800-424-9300 CHEMTREC (USA)

613-996-6666 CANUTEC (Canada)

24 Hours/Day: 7 Days/Week

Section 2. Composition and Information on Ingredients Component

CAS # % by Weight

### Section 1. Product and Company Identification

Product Name Hydrochloric Acid 2.000N Product VW3203 Code Manufacturer EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc. For More Information Call 856-423-6300 Technical Service Monday-Friday: 8:00 AM - 5:00 PM

Synonym None. Material Uses Laboratory Reagent Chemical Acid Solution Family Hydrochloric Acid 7647-01-0 Water 7732-18-5 >93

### Section 3. Hazards Identification Physical State and Liquid.

Appearance Emergency DANGER ! Overview CORROSIVE! HARMFUL IF SWALLOWED. MAY CAUSE EYE BURNS. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED. MAY BE IRRITATING ON CONTACT WITH MUCOUS MEMBRANES. Routes of Entry Eye contact. Inhalation. Ingestion. Potential Acute Health Effects Eyes Hazardous in case of eye contact (corrosive, irritant). May cause burns. Inflammation of the eye is characterized by redness, watering, and itching. Skin Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Inhalation Hazardous in case of inhalation (lung irritant). May be hazardous in case of inhalation. Ingestion Hazardous in case of ingestion. Potential Chronic Health Effects Hydrochloric Acid 2.000N Carcinogenic This material is not known to cause cancer in animals or humans. Effects Additional information See Toxicological Information (section 11) Medical Conditions Repeated or prolonged contact with spray mist may produce chronic eye Aggravated by irritation and severe skin irritation. Repeated or prolonged exposure to Overexposure: spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

### Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

### Section 5. Fire Fighting Measures Flammability of the Non-flammable.

Product Auto-ignition Not applicable. Temperature Flash Points Not applicable. Flammable Limits Not applicable. Products of Not applicable. Combustion Fire Hazards in Not applicable. Presence of Various Substances Explosion Hazards Risks of explosion of the product in presence of static discharge: No. in Presence of Various Substances Risks of explosion of the product in presence of mechanical impact: No. Fire Fighting Media Use water spray or fog. and Instructions Protective Clothing Wear MSHA/NIOSH approved self-contained breathing apparatus or (Fire) equivalent and full protective gear. Special Remarks on Not available. Fire Hazards Special Remarks on Can react with certain metals to release explosive hydrogen gas. Explosion Hazards When heated to decomposition it emits toxic fumes. Hydrochloric Acid 2.000N

### Section 6. Accidental Release Measures

Small Spill and Dilute with water and mop up, or absorb with an inert dry material and Leak place in an appropriate waste disposal container. Large Spill and top leak if without risk. Cover with DRY earth, DRY sand or other Leak non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. Spill Kit the following EM SCIENCE SpillSolv (TM) absorbent is recommended Information for this product: SX1310 Acid Treatment Kit

### Section 7. Handling and Storage

Handling Do not ingest. Do not breathe vapor or mist. Use only with adequate ventilation. Wash thoroughly after handling. Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

### Section 8. Exposure Controls/Personal Protection

Engineering Provide exhaust ventilation or other engineering controls to keep the Controls airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. Personal Protection Eyes Face shield. Body Full suit. Respiratory Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Hands Gloves. Feet Boots. Protective Clothing (Pictograms) Personal Protection Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A in Case of a Large self-contained breathing apparatus should be used to avoid inhalation of Spill the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Product Name Exposure Limits Hydrochloric Acid GermanyDenmarkppppmEuropeppppmUnited Kingdom (UK)ppppmUnited StatesppmUnited Statesppm Water Not available.

### Section 9. Physical and Chemical Properties

Odor Acid. Color Clear. Colorless. Liquid. Hydrochloric Acid 2.000N Point Melting/Freezing Point Critical Temperature Specific Gravity Vapor Pressure Vapor Density Odor Threshold Evaporation Rate LogKow Solubility Physical State and Appearance Molecular Weight Not applicable. Molecular Formula Not applicable. pH Not available. Boiling/Condensation The lowest known value is 99.9°C (211.8°F) (Water). Weighted average: 100.59°C (213.1°F) May start to solidify at -0.1°C (31.8°F) based on data for: Water. Weighted average: -5.18°C (22.7°F) The lowest known value is 51.5°C (124.7°F) (Hydrochloric Acid). The only known value is 1.2 (Water = 1) (Hydrochloric Acid). The highest known value is 21.3 kPa (160 mmHg) (@ 20°C) (Hydrochloric Acid). The highest known value is >1 (Air = 1) (Hydrochloric Acid).

Not available. 0.36 (Water) compared to (n-BUTYL ACETATE=1) Not available. Soluble in water.

#### **Section 10. Stability and Reactivity Stability**

The product is stable. Reactivity Conditions of Not available. Instability Incompatibility with Highly reactive with metals. Various Substances Slightly reactive to reactive with alkalis. Rem/Incompatibility Avoid excessive heat. Hazardous Hydrogen Chloride (HCl), Chlorine. Decomposition Products Hazardous Will not occur. Polymerization

#### **Section 11. Toxicological Information**

RTECS Number: Hydrochloric Acid MW4025000 Water ZC0110000 Toxicity Acute oral toxicity (LD50): 12987 mg/kg (Rabbit) (Calculated value for the mixture). Acute toxicity of the vapor (LC50): 7994 ppm 4 hours (Mouse) (Calculated value for the mixture). Chronic Effects on Not available. Humans Acute Effects on Hazardous in case of eye contact (corrosive, irritant). May cause burns. Humans Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation (lung irritant). May be hazardous in case of inhalation. Hazardous in case of ingestion. Hydrochloric Acid 2.000N Special Remarks MAY BE IRRITATING ON CONTACT WITH MUCOUS on Other Toxic MEMBRANES. Effects on Humans Synergetic Products Not available. (Toxicologically) Irritancy Draize Test: Not available. Sensitization Slightly hazardous in case of inhalation (lung sensitizer). Carcinogenic This material is not known to cause cancer in animals or humans. Effects Toxicity to Not available. Reproductive System Teratogenic Effects Not available. Mutagenic Effects Not available.

#### **Section 12. Ecological Information**

Ecotoxicity Not available. BOD5 and COD Not available. Toxicity of the The products of degradation are as toxic as the product itself. Products of Biodegradation

#### **Section 13. Disposal Considerations**

EPA Waste D002 Number Treatment Specified technology- Neutralize to pH 6-9. Contact your local permitted waste disposal site (TSD) for permissible treatments sites. ALWAYS CONTACT PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

#### **Section 14. Transport Information**

DOT Classification Not available. TDG Classification Not available. IMO/IMDG Not available. Classification ICAO/IATA Not available. Classification

#### **Section 15. Regulatory Information**

U.S. Federal TSCA 8(b) inventory: Hydrochloric Acid; Water Regulations SARA 302/304/311/312 extremely hazardous substances: Hydrochloric Acid SARA 302/304 emergency planning and notification: Hydrochloric Acid SARA 302/304/311/312 hazardous chemicals: Hydrochloric Acid SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Hydrochloric Acid: Sudden Release of Pressure, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard Hydrochloric Acid 2.000N SARA 313 toxic chemical notification and release reporting: Hydrochloric Acid 6.93% Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: Hydrochloric Acid Clean air act (CAA) 112 accidental release prevention: Hydrochloric Acid Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: Hydrochloric Acid WHMIS (Canada) Class D-2B: Material causing other toxic effects (TOXIC). CLASS E: Corrosive liquid. CEPA DSL: Hydrochloric Acid; Water This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information. International Regulations EINECS Hydrochloric Acid 231-595-7 Water 231-791-2 DSCL (EEC) R20- Harmful by inhalation. R34- Causes burns. International Australia (NICNAS): Hydrochloric Acid; Water Lists Japan (MITI): Hydrochloric Acid; Water Korea (TCCL): Hydrochloric Acid; Water Philippines (RA6969): Hydrochloric Acid; Water China: No products were found. State Regulations Pennsylvania RTK: Hydrochloric Acid: (environmental hazard, generic environmental hazard) Massachusetts RTK: Hydrochloric Acid New Jersey: Hydrochloric Acid 2.000N California prop. 65: No products were found.

#### **Section 16. Other Information**

National Fire 0 Fire Protection 20 Hazard Association Health (U.S.A.) Reactivity Specific Hazard

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