Material Safety Data Sheet

Section 1. Product and Company Identification

Common Name	**DESCALER**
Product type	**Cleaner**
Synonym	Not available.
Material Uses	Not available.
Supplier	AIM
Manufacturer	AIM

Code	20377
Validation Date	**2006-01-12**
Version number	**2**

In Case of Emergency **INFOTRAC**
(North America): (800) 535-5053
(International): (352) 323-3500

Section 2. Hazardous Components

Name	CAS #	% by Weight	Toxicity Data (*LC50/LD50, TLV*)
1) Hydroxyacetic acid	79-14-1	60-100	ORAL (LD50): Acute: 1950 mg/kg [rat]. 1920 mg/kg [guinea pig].
2) Hydrochloric acid	7647-01-0	1 - 5	ORAL (LD50): Acute: 915 mg/kg [rat]. 151 mg/kg [mouse]. 2950 mg/kg [mouse]. CEIL: 5 (ppm) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 5 CEIL: 7.5 (mg/m^3) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 7 STEL: 10 CEIL: 5 (ppm) from NIOSH [United States] [1994] INHALATION TWA: 2 STEL: 8 CEIL: 7 (mg/m^3) from NIOSH [United States] [1994] INHALATION TWA: 8 CEIL: 5 (ppm) from OSHA (PEL) [United States] [1989] INHALATION TWA: 7 CEIL: 7 (mg/m^3) from OSHA (PEL) [United States] [1989] INHALATION

Section 3. Hazards Identification

Physical State and Appearance Liquid.

Emergency Overview DANGER!!

Do not get in eyes, on skin or on clothing. DO NOT ingest. Do not breathe vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of Entry Inhalation. Ingestion.

Potential Acute Health Effects

Eyes This product may be hazardous in case of eye contact (irritant). Corrosive to eyes.

Skin This product may be hazardous in case of skin contact (corrosive, irritant, sensitizer). Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering

Inhalation Fumes and/or dusts produced by this product may be hazardous in case of inhalation. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. May be fatal if inhaled.

Ingestion Fumes and/or dusts produced by this product may be hazardous in case of ingestion. May be fatal if swallowed. May cause burns to mouth, throat and stomach.

Continued on Next Page

Potential Chronic Health Effects	Chronic effects: Fumes and/or dusts produced by this product may be hazardous in case of ingestion, of inhalation. This product may be hazardous in case of skin contact (corrosive, irritant, sensitizer), of eye contact (irritant).
Medical Conditions Aggravated by Overexposure:	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. Repeated exposure to toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Overexposure /Signs/Symptoms	Not available.
See Toxicological Information (section 11)	

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. Get medical attention immediately.
Skin Contact	Wash skin with water and mild soap. Get medical attention if irritation occurs.
Hazardous Skin Contact	Remove contaminated clothing. Rinse skin with water for at least 15 minutes. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen Get medical attention immediately.
Hazardous 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 mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
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.
Hazardous Ingestion	Not available.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	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.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Continued on Next Page

Section 6. Accidental Release Measures

Small Spill and Leak	Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.**
Large Spill and Leak	Corrosive liquid. Poisonous liquid. 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. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of sodium carbonate.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Handling	DO NOT ingest. Do not breathe vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. 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 Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. 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.

*** Note:Suggested protective clothing may not be adequate for a specific process. Consult a specialist before using.**

Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	**Exposure Limits**
1) HYDROXYACETIC ACID 2) HYDROCHLORIC ACID (HYDROGEN CHLORIDE)	Not available. CEIL: 5 (ppm) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 5 CEIL: 7.5 (mg/m^3) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 7 STEL: 10 CEIL: 5 (ppm) from NIOSH [United States] [1994] INHALATION TWA: 2 STEL: 8 CEIL: 7 (mg/m^3) from NIOSH [United States] [1994] INHALATION TWA: 8 CEIL: 5 (ppm) from OSHA (PEL) [United States] [1989] INHALATION TWA: 7 CEIL: 7 (mg/m^3) from OSHA (PEL) [United States] [1989] INHALATION

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	**Odor**	Not available.
Molecular Weight	Not applicable.	**Taste**	Not available.
Chemical formula	Not applicable.	**Color**	Not available.
pH (1% Soln/Water)	Acidic.	**Specific Gravity**	
Acid Value (IPC TM-650, 2.3.13)	Not available.		

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Boiling/Condensation Point	Lowest known value is 100 C (212 F) Water
Melting/Freezing Point	May start to solidy at 0 C (32 F)
Critical Temperature	Not available.
Vapor Pressure	highest known value is 2.3 kPa @ 20C (Water)
Vapor Density	highest known value is 1(Water)
Volatility	not available
Odor Threshold	The highest known value is 1 ppm (Hydrochloric acid)
Evaporation Rate	Not available.
VOC	not available
Viscosity	Not available.
LogK$_{ow}$	The product is much more soluble in water.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol.
Solubility	Easily soluble in cold water, hot water, methanol. Insoluble in diethyl ether, n-octanol.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Non-reactive with organic materials, metals.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Will not occur.
Corrosivity	Slightly corrosive in presence of aluminum, of zinc. Very slightly corrosive in presence of steel, of copper. Non-corrosive in presence of glass, of stainless steel(304), of stainless steel(316).
Special Remarks on Corrosivity	Not available.

Section 11. Toxicological Information

Toxic and Chronic Effects on Humans	Fumes and/or dusts produced by this product may be hazardous in case of ingestion, of inhalation. This product may be hazardous in case of skin contact (corrosive, irritant, sensitizer), of eye contact (irritant). **CARCINOGENIC EFFECTS**: Classified NONE by NIOSH [Hydroxyacetic acid]. Classified NONE by NIOSH [Hydrochloric acid]. Classified 3 (Not classifiable for human) by IARC [Hydrochloric acid]. **MUTAGENIC EFFECTS**:Not available. **TERATOGENIC EFFECTS**:Not available. **DEVELOPMENTAL TOXICITY**:Not available. The product may be toxic to lungs, upper respiratory tract, skin, eye, lens or cornea. Repeated or prolonged exposure to the substance can produce target organs damage. 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. Repeated exposure to toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Continued on Next Page

Toxicity to Animals	Acute oral toxicity (LD50): 151mg/kg (mouse) Hydrochloric acid
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.
Special Remarks on Toxicity to Animals	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Biodegradable/OECD	Not available.
Mobility	Not available.
	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream	Not available.

Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	Class 8: Corrosive material	
	Corrosive liquids n.o.s., (Hydroxyacetic acid), 8, UN1760, III	
Special Provisions for Transport	Not available.	
Special Provisions for Transport		
IMO/IMDG Classification	Corrosive liquid n.o.s., (Hydroxyacetic acid), 8, UN1760, III	
Marine Pollutant	Not available.	
ADR/RID Classification	Corrosive liquid n.o.s., (Hydroxyacetic acid), 8, UN1760, III	
ICAO/IATA Classification	Corrosive liquid n.o.s., (Hydroxyacetic acid), 8, Un1760, III	

Continued on Next Page

Section 15. Regulatory Information

HCS Classification

Class: Toxic.
Class: Sensitizing substance.
Class: Target organ effects.
Class: Corrosive material

U.S. Federal Regulations

TSCA inventory: ALL COMPONENTS
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: Hydroxyacetic acid; Hydrochloric acid
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Hydroxyacetic acid: immediate health hazard; Hydrochloric acid: sudden release, immediate health hazard, delayed health hazard
SARA 313 toxic chemical notification and release reporting: Hydrochloric acid: 1%
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

State Regulations

Pennsylvania RTK: Hydrochloric acid: (environmental hazard, generic environmental hazard)
Massachusetts RTK: Hydrochloric acid
New Jersey: Hydrochloric acid
California prop. 65: No products were found.

International Regulations

EINECS

Not available.

DSCL (EEC)

20/22- Harmful by inhalation and if swallowed.
R35- Causes severe burns.
43- May cause sensitization by skin contact.

International Lists

Australia (NICNAS): Hydroxyacetic acid; Hydrochloric acid

Korea (TCCL): Hydroxyacetic acid; Hydrochloric acid

Philippines (RA6969): Hydroxyacetic acid; Hydrochloric acid

Section 16. Other Information

Hazardous Material Information System (U.S.A.)

Health	*	3
Fire Hazard		0
Reactivity		0
Personal Protection		H

National Fire Protection Association (U.S.A.)

Label statements

CAUSES SEVERE RESPIRATORY TRACT AND EYE BURNS.
HARMFUL IF INHALED OR SWALLOWED.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, RESPIRATORY TRACT, SKIN, CRYSTALLINE LENS OR CORNEA.
MAY CAUSE ALLERGIC SKIN REACTION.

References

-ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. -CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database -Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. Sigma-Alrich handbook of fine chemicals, 1998 -TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985.

Other Special Considerations

-ALL INGREDIENTS WITH SUSCEPTIBLE HAZARDS THAT ARE PRESENT IN A CONCENTRATION GREATER THAN 1 % (GREATER THAN 0.1 % FOR CARCINOGENS) HAVE BEEN DISCLOSED IN THIS SAFETY DOCUMENT.

Continued on Next Page

Document Modifications

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