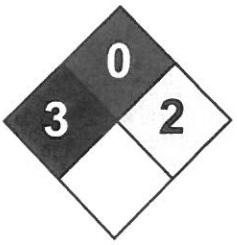
BullDozer



Health	3
Fire	0
Reactivity	2
Personal Protection	

Material Safety Data Sheet
Sulfuric acid MSDS

Section 1: Chemical Product and Company Identification

Product Name: BullDozer

Chemical Name: Sulfuric Acid

Contact Information
Rheta's Mix Plumbing Supply, Inc.
4104 Live Oak Ave.
Arcadia, CA 91006
(818) 439-7332
(626) 574-9917 fax

24HR Emergency Telephone call: 800-535-5053

Synonym: Battery Acid

Date Prepared June 5, 2010

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Diluted sulfuric acid	7664-93-9	95 - 98

Toxicological Data on Ingredients: Sulfuric acid: ORAL (LD50): Acute: 2140 mg/kg [Rat.]. VAPOR (LC50): Acute: 510 mg/m 2 hours [Rat]. 320 mg/m 2 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, + (Proven.) by OSHA. Classified A2 (Suspected for human.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, lungs, heart, cardiovascular system, upper respiratory tract, eyes, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged

11-2156 11-2158 11-2160

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 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.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. 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.

Serious 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:
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 if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion:
Products of combustion are not available since material is non-flammable. However, products of decompostion include fumes of oxides of sulfur. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas. Reacts with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

Fire Hazards in Presence of Various Substances: Combustible materials

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. Slightly explosive in presence of oxidizing materials.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:
Metal acetylides (Monocesium and Monorubidium), and carbides ignite with concentrated sulfuric acid. White Phosphorous + boiling Sulfuric acid or its vapor ignites on contact. May ignite other combustible materials. May cause fire when sulfuric acid is mixed with Cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phorphorous (III) oxide, and oxidizing agents such as chlorates, halogens, permanganates.

Special Remarks on Explosion Hazards:
Mixtures of sulfuric acid and any of the following can explode: p - nitrotoluene , pentasilver trihydroxydiaminophosphate, perchlorates, alcohols with strong hydrogen peroxide, ammonium tetraperoxychromate, mercuric nitrite, potassium chlorate, potassium permanganate with potassium chloride, carbides, nitro compounds, nitrates, carbides, phosphorous, iodides, picratres, fulminats, dienes, alcohols (when heated) Nitramide decomposes explosively on contact with concentrated sulfuric acid. 1,3,5-Trinitrosohexahydro-1,3,5-triazine + sulfuric acid causes explosive decompositon.

Section 6: Accidental Release Measures

Small Spill:
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:
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

Precautions:
Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, combustible materials, organic materials, metals, acids, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

Storage:
Hygroscopic. Reacts. violently with water. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

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:
Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

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.

Exposure Limits:
TWA: 1 STEL: 3 (mg/m3) [Australia] Inhalation TWA: 1 (mg/m3) from OSHA (PEL) [United States] Inhalation TWA: 1 STEL: 3 (mg/m3) from ACGIH (TLV) [United States] [1999] Inhalation TWA: 1 (mg/m3) from NIOSH [United States] Inhalation TWA: 1 (mg/m3) [United Kingdom (UK)]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Thick oily liquid.)

Odor: Odorless, but has a choking odor when hot.

Taste: Marked acid taste. (Strong.)

Molecular Weight: 98.08 g/mole

Color: Colorless.

pH (1% soln/water): Acidic.

Boiling Point:
270°C (518°F) - 340 deg. C Decomposes at 340 deg. C

Melting Point: -35°C (-31°F) to 10.36 deg. C (93% to 100% purity)

Critical Temperature: Not available.

Specific Gravity: 1.84 (Water = 1)

Vapor Pressure: Not available.

Vapor Density: 3.4 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:
Easily soluble in cold water. Sulfuric is soluble in water with liberation of much heat. Soluble in ethyl alcohol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability:
Conditions to Avoid: Incompatible materials, excess heat, combustible material materials, organic materials, exposure to moist air or water, oxidizers, amines, bases. Always add the acid to water, never the reverse.

Incompatibility with various substances:
Reactive with oxidizing agents, reducing agents, combustible materials, organic materials, metals, acids, alkalis, moisture.

Corrosivity:
Extremely corrosive in presence of aluminum, of copper, of stainless steel(316). Highly corrosive in presence of stainless steel(304). Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Hygroscopic. Strong oxidizer. Reacts violently with water and alcohol especially when water is added to the product. Incompatible (can react explosively or dangerously) with the following: ACETIC ACID, ACRYLIC ACID, AMMONIUM HYDROXIDE, CRESOL, CUMENE, DICHLOROETHYL ETHER, ETHYLENE CYANOHYDRIN, ETHYLENEIMINE, NITRIC ACID, 2-NITROPROPANE, PROPYLENE OXIDE, SULFOLANE, VINYLIDENE CHLORIDE, DIETHYLENE GLYCOL MONOMETHYL ETHER, ETHYL ACETATE, ETHYLENE CYANOHYDRIN, ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, GLYOXAL, METHYL ETHYL KETONE, dehydrating agents, organic materials, moisture (water), Acetic anhydride, Acetone, cyanohydrin, Acetone+nitric acid, Acetone + potassium dichromate, Acetonitrile, Acrolein, Acrylonitrile, Acrylonitrile + water, Alcohols + hydrogen peroxide, ally compounds such as Allyl alcohol, and Allyl Chloride, 2-Aminoethanol, Ammonium hydroxide, Ammonium triperchromate, Aniline, Bromate + metals, Bromine pentafluoride, n-Butyraldehyde, Carbides, Cesium acetylene carbide, Chlorates, Cyclopentanone oxime, chlorinates, Chlorates + metals, Chlorine trifluoride, Chlorosulfonic acid, 2-cyano-4-nitrobenzenediazonium hydrogen sulfate, Cuprous nitride, p-chloronitrobenzene, 1,5-Dinitronaphthlene +

sulfur, Diisobutylene, p-dimethylaminobenzaldehyde, 1,3-Diazidobenzene, Dimethylbenzylcarbinol + hydrogen peroxide, Epichlorohydrin, Ethyl alcohol + hydrogen peroxide, Ethylene diamine, Ethylene glycol and other glycols, , Ethylenimine, Fulminates, hydrogen peroxide, Hydrochloric acid, Hydrofluoric acid, Iodine heptafluoride, Indane + nitric acid, Iron, Isoprene, Lithium silicide, Mercuric nitride, Mesityl oxide, Mercury nitride, Metals (powdered), Nitromethane, Nitric acid + glycerides, Nitrotoluene, Pentasilver trihydroxydiaminophosphate, Perchlorates, Perchloric acid, Permanganates + benzene, 1-Phenyl-2-methylpropyl alcohol + hydrogen peroxide, Phosphorus, Phosphorus isocyanate, Picrates, Potassium tert-butoxide, Potassium chlorate, Potassium Permanganate and other permanganates, halogens, amines, Potassium Permanganate + Potassium chloride, Potassium Permanganate + water, Propiolactone (beta)-, Pyridine, Rubidium aceteylene carbide, Silver permanganate, Sodium, Sodium carbonate, sodium hydroxide, Steel, styrene monomer, toluene + nitric acid, Vinyl acetate, Thalium (I) azidodithiocarbonate, Zinc chlorate, Zinc Iodide, azides, carbonates, cyanides, sulfides, sulfites, alkali hydrides, carboxylic acid anhydrides, nitriles, olefinic organics, aqueous acids, cyclopentadiene, cyano-alcohols, metal acetylides, Hydrogen gas is generated by the action of the acid on most metals (i.e. lead, copper, tin, zinc, aluminum, etc.). Concentrated sulfuric acid oxidizes, dehydrates, or sulfonates most organic compounds.

Special Remarks on Corrosivity:
Non-corrosive to lead and mild steel, but dillute acid attacks most metals. Attacks many metals releasing hydrogen. Minor corrosive effect on bronze. No corrosion data on brass or zinc.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 2140 mg/kg [Rat.]. Acute toxicity of the vapor (LC50): 320 mg/m3 2 hours [Mouse].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, + (Proven.) by OSHA. Classified A2 (Suspected for human.) by ACGIH. May cause damage to the following organs: kidneys, lungs, heart, cardiovascular system, upper respiratory tract, eyes, teeth.

Other Toxic Effects on Humans:
Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion, .

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
Mutagenicity: Cytogenetic Analysis: Hamster, ovary = 4mmol/L Reproductive effects: May cause adverse reproductive effects based on animal data. Developmental abnormalities (musculoskeletal) in rabbits at a dose of 20 mg/m3 for 7 hrs.(RTECS) Teratogenecity: neither embryotoxic, fetoxic, nor teratogenetic in mice or rabbits at inhaled doses producing some maternal toxicity

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Causes severe skin irritation and burns. Continued contact can cause tissue necrosis. Eye: Causes severe eye irritation and burns. May cause irreversible eye injury. Ingestion: Harmful if swallowed. May cause permanent damage to the digestive tract. Causes gastrointestial tract burns. May cause perforation of the stomach, GI bleeding, edema of the glottis, necrosis and scarring, and sudden circulatory collapse(similar to acute inhalation). It may also cause systemic toxicity with acidosis. Inhalation: May cause severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, shortness of breath, and delayed lung edema. Causes chemical burns to the repiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Cause corrosive action on mucous membranes. May affect cardiovascular system (hypotension, depressed cardiac output, bradycardia). Circulatory collapse with clammy skin, weak and rapid pulse, shallow respiration, and scanty urine may follow. Circulatory shock is often the immediate cause of death. May also affect teeth(changes in teeth and supporting structures - erosion, discoloration). Chronic Potential Health Effects: Inhalation: Prolonged or repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and cardiovascular system, heart (ischemic heart leisons), and respiratory system/lungs(pulmonary edema, lung damage), teeth (dental discoloration, erosion). Skin: Prolonged or repeated skin contact may cause dermatitis, an allergic skin reaction.

Section 12: Ecological Information

Ecotoxicity: Ecotoxicity in water (LC50): 49 mg/l 48 hours [bluegill/sunfish].

BOD5 and COD: Not available.

Products of Biodegradation:
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 than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Sulfuric acid may be placed in sealed container or absorbed in vermiculite, dry sand, earth, or a similar material. It may also be diluted and neutralized. Be sure to consult with local or regional authorities (waste regulators) prior to any disposal. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Sulfuric acid UNNA: 1830 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Illinois toxic substances disclosure to employee act: Sulfuric acid New York release reporting list: Sulfuric acid Rhode Island RTK hazardous substances: Sulfuric acid Pennsylvania RTK: Sulfuric acid Minnesota: Sulfuric acid Massachusetts RTK: Sulfuric acid New Jersey: Sulfuric acid California Director's List of Hazardous Substances (8 CCR 339): Sulfuric acid Tennessee RTK: Sulfuric acid TSCA 8(b) inventory: Sulfuric acid SARA 302/304/311/312 extremely hazardous substances: Sulfuric acid SARA 313 toxic chemical notification and release reporting: Sulfuric acid CERCLA: Hazardous substances.: Sulfuric acid: 1000 lbs. (453.6 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC):
R35- Causes severe burns. S2- Keep out of the reach of children. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S30- Never add water to this product. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 2

Personal Protection:

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

Health: 3

Flammability: 0

Reactivity: 2

Specific hazard:

Protective Equipment:
Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16: Other Information

References:
-Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.

Other Special Considerations: Not available.

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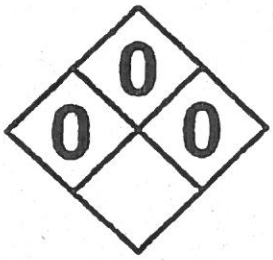
SANI-CLOR

SODA ASH

Material Safety Data Sheet

Emergency 24 Hour Telephone: CHEMTREC 800.424.9300

Corporate Headquarters: Hasa Inc.
23119 Drayton Street
Saugus, California 91350
Telephone • 661.259.5848
Fax • 661.259.1538



IDENTIFICATION OF PRODUCT	
Product Name:	SANI-CLOR SODA ASH
Common Chemical Names:	Soda Ash, Sodium Carbonate
Chemical Names of Ingredients [>1.0% by weight]:	Sodium Carbonate
Chemical Family:	Alkali
CAS Registry Number:	497-19-6
Empirical Formula:	Na_2CO_3

PHYSICAL AND CHEMICAL PROPERTIES			
Vapor Pressure:	Not Applicable.	**Flash Point:**	Not Applicable.
Weight/Gallon:	Not Applicable.	**pH:**	11.5
Density [liquid]:	Not Applicable.	**Odor:**	None.
Bulk Density:	60 lbs/cubic foot	**Boiling Point:**	854°C
Melting Point:	Not Applicable.	**Freezing Point:**	Not Applicable.
Physical State:	Granules.	**Color:**	White
Solubility in Water:	17 g/100 g H2O at 25°C	**Stability:**	Stable

PHYSICAL HAZARDS	
Potential for Fire:	Nonflammable.
Potential for Explosion:	None
Reactivity:	Will react with acids to form carbon dioxide [CO_2]
Extinguishing Media:	Non-flammable.

HEALTH HAZARDS	
Signs and Symptoms of Exposure:	Eye and skin irritation.
Medical Conditions Aggravated by Exposure:	No data available.
Oral [ingestion] LD_{50}:	No data available.
Dermal [skin absorption] LD_{50}:	28,000 mg/kg
Inhalation [breathing] LC_{50}:	Dust may irritate nose and respiratory system.
Eye Irritation:	May irritate and/or burn eyes on contact.
Skin Irritation:	Mild irritation. Not considered to be a skin sensitizer.
OSHA PEL:	None Established.
ACGIH TLV/TWA:	None Established.

POTENTIAL ROUTE [S] OF ENTRY	
Inhalation [Breathing]:	Dust from product.
Dermal [Skin]:	Dust from product.
Eyes:	Dust from product.
Ingestion:	Not anticipated.

CARCINOGENIC [CANCER POTENTIAL] INFORMATION	
National Toxicological Program [NTP] *Sixth Annual Report on Carcinogens:*	Not listed.
International Agency for Research on Cancer [IARC] Monographs, V. 1-53, Supps. 1-8:	Not listed.
Listed by Federal OSHA as Carcinogens:	Not listed.
Safe Drinking Water and Toxic Enforcement Act of 1986 [Proposition 65, California only]:	Not listed.

GENERAL PRECAUTIONS FOR SAFE USE AND HANDLING
Store in cool, dry place. Do not mix with acids. Add this product only to swimming pool, spa, hot tub, or therapeutic waters in accordance with label directions.

PERSONAL PROTECTION AND HYGIENE
Wash hands after handling.

CLEAN-UP OF SPILLS
Sweep up spilled material and place in trash for collection.

FIRST AID	
Eye Contact:	Flush with water. Remove contact lenses [if applicable]. Hold eyelids open. Continue flushing with water for 15 minutes. Get prompt medical attention.
Skin Contact:	Brush off any residue. Wash affected area with water for 15 minutes. If irritation persists, get medical attention.
Ingestion [swallowing]:	Drink large quantities of water. DO NOT induce vomiting.
Inhalation:	Get medical attention for irritation, ingestion, or discomfort from inhalation.

FEDERAL/STATE LISTS/REGISTRATION/S/REPORTING REQUIREMENTS	
CERCLA Hazardous Substance [Section 1010 [4], P.L. 96-510]:	Not listed.
Extremely Hazardous Substance [40 CFR 355, Appendix A]:	Not listed.
Pesticide Product 7 U.S.C. 136 et seq.:	Not registered.
Toxic Substance under TSCA:	Not reported.
Pesticide Product [various State Laws]:	Registered as economic poison.

MATERIAL CLASSIFICATION	
OSHA Hazard Communication Standard, Department of Labor, Occupational Safety and Health Division, 29 CFR 1910.1200:	Irritant
Hazardous Materials Transportation Regulations, Department of Transportation (Federal) 49 CFR 172.101:	Not regulated.
National Fire Protection Association NFPA 704 [1990]:	0-0-0
NFPA 49:	Irritant
BOCA National Fire Prevention Code/National Building Code [1999 editions]:	Irritant
Standard Fire Prevention Code/Standard Building Code [1997 editions]:	Irritant
Uniform Fire Code/Uniform Building Code [1997 editions]:	Irritant
Uniform Fire Code Standards 79-3, Uniform Fire Code, V. II [1997 edition]:	0-0-0

Please Note: The information contained herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge and belief. NO WARRANTY OR GUARANTEE, expressed or implied, is made regarding the product performance, product stability, or as to any other condition of use, handling, transportation, and storage. Customer use, handling, transportation, and storage may involve additional safety and/or performance considerations. Our technical personnel will be happy to respond to questions regarding safe handling, storage, transportation and use procedures. The safe handling, storage, transportation and use procedures remain the sole responsibility of the customer. No suggestions for handling, storage, transportation or use are intended as or to be construed as recommendations which may infringe on any existing patents or violate any Federal, State, and/or local law and/or regulation, ordinance, standard, etc.. This Material Safety Data Sheet has been prepared by HASA, Inc. staff from test reports and other information available in the public domain.

Material Safety Data Sheet
BULL DOZER DRAIN OPENER

MAGNUS PRODUCTS
12055 E SLAUSON AVE
SANTA FE SPRINGS, CA 90670
800 525-2726

DATE PREPARED: 1/05
24 HOUR EMERGENCY# 800-535-5053

SECTION I - IDENTIFICATION

PRODUCT NAME:..... BULL DOZER DRAIN OPENER
CHEMICAL FAMILY:..... Sulfuric Acid
SYNONYMS:..... Oil of Vitriol-Oleum
FORMULA:..... H_2SO_4

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER	OSHA	ACGIH
Sulfuric Acid	86-95%	7664-93-9	1.00 mg/m3	1.00 (TWA) 3.00(STEL)
Sulfur Dioxide	<1%	7446-09-5	2.0 ppm(TWA) 5.0 ppm(STEL)	2.0ppm(TWA) 5.0ppm(STEL)
Water	5-14%	7732-18-5	N/A	N/A

*NA=Not Applicable

NFPA Hazard Rating	~	Scale
Health	3	4=Extreme
Fire	0	3=High
Reactivity	2	2=Moderate
Special	W	1=Slight
		0=Insignificant

SECTION III - PHYSICAL DATA

APPEARANCE:..... Extremely slippery clear viscous liquid.
..... Odorless to sharp pungent.
BOILING POINT:..... 260 F.
VAPOR DENSITY(Air=1):..... 3.4
SPECIFIC GRAVITY (H_2O=1):..... 1.78-1.84
EVAPORATION RATE:..... <1
SOLUBILITY IN WATER:..... 100%
PERCENT VOLATILES BY VOLUME:.....Negligible

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT:..... None to boiling
EXTINGUISHING MEDIA:..... Avoid using water, if possible. If involved in a fire, the use of dry chemical or CO_2 is recommended
SPECIAL FIRE FIGHTING PROCEDURES:..... Wear appropriate protective equipment including respiratory protection as conditions warrant. Stop spill/release if it can be done without risk. Move undamaged containers from fire area if it can be done without risk. Water spray may be useful in minimizing or dispersing vapors and cooling equipment exposed to heat and flame. Fires involving small amounts of

combustibles maybe smothered with suitable dry chemicals. Use water on combustibles burning but avoid use of water directly on acid as it results in evolution of heat and causes splattering.

UNUSUAL FIRE AND EXPLOSION HAZARDS:.... This material will not burn, but if involved in a fire may release hazardous oxides of sulfur. This material may ignite combustibles. Attacks many common metals (especially when diluted) releasing hydrogen, a flammable gas. Closed containers exposed to extreme heat may rupture due to pressure build-up. Vapors are heavier than air & may accumulate in low area

SECTION V - REACTIVITY DATA

STABILITY: Stable under normal conditions of storage and handling.

CONDITIONS AFFECTING REACTIVITY: Water reactive material, generating heat upon contact. Heat will increase overall reactivity.

INCOMPATIBLE MATERIALS: Highly reactive and capable of igniting finely divided combustible materials, particularly carbides, chlorates, fulminates, nitrates, picrates, powdered metals and other combustible materials. Contact with hypochlorates (e.g. Chlorine Beach), sulfides or cyanides will produce toxic gases. Reacts violently with water, alkaline materials or organic materials with evolution of heat. Attacks many metals, releasing hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS (INCLUDING COMBUSTION PRODUCTS):

Material will not burn but if involved in a fire may generate oxides of sulfur. Decomposes to water and sulfur trioxide above 644 F.

HAZARDOUS POLYMERIZATION: None known

SECTION VI - HEALTH DATA

EFFECTS OF OVER-EXPOSURE:

EYES: This causes severe burns of the eyes. Direct contact with the liquid or exposure to vapors or mists may cause stinging, tearing, redness, swelling, corneal damage and irreversible eye damage.

SKIN: This material causes severe burns of the skin. Direct contact or exposure to vapors or mists can be severely irritating to the skin and may result in redness, swelling, burns and severe skin damage. Persons with preexisting skin disorders may be more susceptible to the effects of this material.

INHALATION: Breathing vapors or mists may cause severe irritation and burns of the nose, throat, respiratory tract, coughing, pneumonitis (inflammation of the lungs), pulmonary edema (accumulation of fluid in the lungs) and chest pain. Respiratory symptoms associated with preexisting lung disorders (e.g. asthma-like conditions), may be aggravated by exposure to this material.

INGESTION: This material may be harmful or fatal if swallowed. Ingestion may result in severe irritation and burns of the mouth, throat and digestive tract, nausea, vomiting, abdominal pain and perforation of the stomach.

COMMENTS: This material has not been identified as a carcinogen by NTP, IARC or OSHA. Prolonged and repeated exposure to acid mists may cause erosion of the teeth

Material Safety Data Sheet
BULL DOZER DRAIN OPENER

SECTION VII - FIRST AID

BREATHING (INHALATION): Immediately move victim away from exposure and into fresh air. If respiratory symptoms or other symptoms of exposure develop, seek medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

SWALLOWING (INGESTION): DO NOT INDUCE VOMITING - CORROSIVE MATERIAL. If victim has any breathing difficulties, call for emergency help immediately. If victim is conscious and alert, immediately rinse mouth with water and dilute the ingested material by giving one glass of milBULL DOZERr water to drink. Call a physician or poison center. If possible, do not leave victim unattended.

EYES: Immediately move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek immediate medical attention. For direct contact, immediately hold eyelids apart and flush affected eye(s) with clean water for at least 30 minutes. Seek immediate medical attention.

SKIN (DERMAL): Immediately flush the affected area(s) with large amounts of water while removing contaminated shoes, clothing and constrictive jewelry. If skin surface is damaged, apply a clean dressing and seek immediate medical attention. If skin surface is not damaged, cleanse the affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develop, seek immediate medical attention.

NOTE TO PHYSICIANS: Late complications of acid may produce esophageal, gastric and pyloric structuring and senosis which may require surgical repair.

SECTION VIII - EMPLOYEE PROTECTION

VENTILATION & ENGINEERING CONTROLS: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.

RESPIRATORY PROTECTION: If airborne concentrations exceed established exposure limits, use a powered air purifying respirator with HEPA Filter or supplied air respirator. Do not use a chemical cartridge respirator.

PROTECTIVE EQUIPMENT: The use of gloves impermeable to the specific material handled is advised to prevent skin contact, possible irritation and skin damage. Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended.

RECOMMENDED PERSONAL HYGIENE: Impervious clothing should be worn as needed. Eye wash and quick drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Material Safety Data Sheet
BULL DOZER DRAIN OPENER

SECTION IX - SPILL AND DISPOSAL DATA

SPILL: Stay upwind and away from spill/release. Isolate hazard area and limit entry to authorized personnel. Stop spill/release if it can be done without risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled materials may be absorbed into an appropriate absorbent material. Use water sparingly to reduce disposal requirements. NOTE: Sulfuric acid is extremely slippery. Keep combustibles (wood, paper, oil) away from spilled material. Dike and recover freestanding product. Take up with sand or other inert noncombustible material and place in sealable containers. Notify appropriate Federal, State and Local agencies. Immediate cleanup of any spill is recommended.

EPA REPORTABLE QUANTITY: Sulfuric Acid 1,000 lbs., equivalent to 1,010 - 1, 080 lbs. (66-71 gals) of this product depending on concentration.

WASTE DISPOSAL: Dispose of product in accordance with Local, State and Federal regulations.

HIGHWAY OR RAILWAY SPILLS
Continental U.S. (800) 424-9300
Alaska & Hawaii (202) 483-8616

SECTION X - HANDLING AND STORAGE

STORAGE AND HANDLING: Use this material in cool, dry, well ventilated areas. Keep containers closed. Store only in approved containers. Keep away from incompatible materials. Protect containers against physical damage. Do not enter confined spaces such as tanks or pits without following entry procedures such as ASTM D-4276. The use of respiratory protection is advised when concentrations exceed any established exposure limits. Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice. Protect contains from physical damage and exposure to metal.

MIXING: Sulfuric acid is corrosive to most metals. Separate from carbides, chlorates, fulminates, nitrates, picrates, powdered metals and combustible materials. Keep away from strong oxidizing agents including oxygen and chlorine. This product has a great affinity for water, abstracting it from the air and also from organic substances; hence it will char wood and etc... When diluting, the acid should be added to the diluent.

DOT PROPER SHIPPING NAME: ..... R Q SULFURIC ACID
I.D. NUMBER: ..... UN 1830
DOT HAZARD CLASSIFICATION: ..... CORROSIVE MATERIAL
TRANSPORTATION EMERGENCIES: .... Continental USA (800) 424-9300
..... Alaska & Hawaii (Collect) (202) 483-7616

Material Safety Data Sheet
CLEAR ALL DRAIN OPENER

STANDARD CHEMWAY
16444 BOLSA CHICA ST. #115
HUNTINGTON BEACH, CA 92649
800 525-2726

DATE PREPARED: 1/05
24 HOUR EMERGENCY# 800-535-5053

SECTION I - IDENTIFICATION

PRODUCT NAME:..... CLEAR ALL DRAIN OPENER
CHEMICAL FAMILY:..... Sulfuric Acid
SYNONYMS:..... Oil of Vitriol-Oleum
FORMULA:..... H_2SO_4

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER	OSHA	ACGIH
Sulfuric Acid	86-95%	7664-93-9	1.00 mg/m3	1.00 (TWA) 3.00(STEL)
Sulfur Dioxide	<1%	7446-09-5	2.0 ppm(TWA) 5.0 ppm(STEL)	2.0ppm(TWA) 5.0ppm(STEL)
Water	5.0-14.0%	7732-18-5	N/A	N/A

*NA=Not Applicable

NFPA Hazard Rating	~	Scale
Health	3	4=Extreme
Fire	0	3=High
Reactivity	2	2=Moderate
Special	W	1=Slight
		0=Insignificant

SECTION III - PHYSICAL DATA

APPEARANCE:..... Extremely slippery clear viscous liquid.
..... Odorless to sharp pungent.
BOILING POINT:..... 260-538 F.
VAPOR DENSITY(Air=1):..... 3.4
SPECIFIC GRAVITY (H_2O=1):..... 1.82-1.84
EVAPORATION RATE:..... <1
SOLUBILITY IN WATER:..... 100%
PERCENT VOLATILES BY VOLUME:.....Negligible

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT:..... None to boiling
EXTINGUISHING MEDIA:..... Avoid using water, if possible. If involved in a fire, the use of dry chemical or CO_2 is recommended
SPECIAL FIRE FIGHTING PROCEDURES:..... Wear appropriate protective equipment including respiratory protection as conditions warrant. Stop spill/release if it can be done without risk. Move undamaged containers from fire area if it can be done without risk. Water spray may be useful in minimizing or dispersing vapors and cooling equipment exposed to heat and flame. Fires involving small amounts of

combustibles maybe smothered with suitable dry chemicals. Use water on combustibles burning but avoid use of water directly on acid as it results in evolution of heat and causes splattering.

UNUSUAL FIRE AND EXPLOSION HAZARDS:.... This material will not burn, but if involved in a fire may release hazardous oxides of sulfur. This material may ignite combustibles. Attacks many common metals (especially when diluted) releasing hydrogen, a flammable gas. Closed containers exposed to extreme heat may rupture due to pressure build-up. Vapors are heavier than air & may accumulate in low area

SECTION V - REACTIVITY DATA

STABILITY: Stable under normal conditions of storage and handling.

CONDITIONS AFFECTING REACTIVITY: Water reactive material, generating heat upon contact. Heat will increase overall reactivity.

INCOMPATIBLE MATERIALS: Highly reactive and capable of igniting finely divided combustible materials, particularly carbides, chlorates, fulminates, nitrates, picrates, powdered metals and other combustible materials. Contact with hypochlorates (e.g. Chlorine Beach), sulfides or cyanides will produce toxic gases. Reacts violently with water, alkaline materials or organic materials with evolution of heat. Attacks many metals, releasing hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS (INCLUDING COMBUSTION PRODUCTS):
Material will not burn but if involved in a fire may generate oxides of sulfur. Decomposes to water and sulfur trioxide above 644 F.

HAZARDOUS POLYMERIZATION: None known

SECTION VI - HEALTH DATA

EFFECTS OF OVER-EXPOSURE:

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SKIN: This material causes severe burns of the skin. Direct contact or exposure to vapors or mists can be severely irritating to the skin and may result in redness, swelling, burns and severe skin damage. Persons with preexisting skin disorders may be more susceptible to the effects of this material.

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COMMENTS: This material has not been identified as a carcinogen by NTP, IARC or OSHA. Prolonged and repeated exposure to acid mists may cause erosion of the teeth

Material Safety Data Sheet
CLEAR ALL DRAIN OPENER

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CLEAR ALL DRAIN OPENER

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