



# MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

## BASIC CHEMICAL SOLUTIONS

### **PART I** *What is the material and what do I need to know in an emergency?*

#### 1. PRODUCT IDENTIFICATION

**TRADE NAME (AS LABELED):** **BCS ACID SANITIZER LF**

**CHEMICAL NAME/CLASS:** Inorganic Acid Solution

**PRODUCT USE:** Cleaner

**SUPPLIER/MANUFACTURER'S NAME:** **BASIC CHEMICAL SOLUTIONS, L.L.C.**

**ADDRESS:** **Corporate Office**  
525 Seaport Blvd  
Redwood City, CA 94063

**BUSINESS PHONE:** 1-800-411-4227

**EMERGENCY PHONE:** **CHEMTREC: 1-800-424-9300**

**DATE OF PREPARATION:** March 9, 2004

**REVISION DATE:** December 17, 2009

#### 2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA		IDLH	OTHER
			TLV mg/m <sup>3</sup>	STEL mg/m <sup>3</sup>	PEL mg/m <sup>3</sup>	STEL mg/m <sup>3</sup>		
Phosphoric Acid Solution	7664-38-2	5 - 10%	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	1 mg/m <sup>3</sup> 1 mg/m <sup>3</sup> , (Vacated 1989 PELs)	3, mg/m <sup>3</sup> (Vacated 1989 PELs)	1000 mg/m <sup>3</sup>	NIOSH REL: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>
Sulfuric Acid Solution	27176-78-0	5 - 10%	1 mg/m <sup>3</sup>	10	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>	NE
Propionic Acid Solution	79-09-04	7 - 12%	NE	NE	NE	NE	NE	NE
Water	-	50 - 70%	NE	NE	NE	NE	NE	NE

NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used.

NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

### 3. HAZARD IDENTIFICATION

**EMERGENCY OVERVIEW:** This product is a clear, amber solution with a pungent odor. This solution is a primary irritant to skin, eyes, and other contaminated tissues. Inhalation of high concentrations of this product's vapors can irritate the tissues of the respiratory system and cause central nervous system effects (e.g., drowsiness, dizziness, headaches). In the event of fire or spill, adequate precautions must be taken. This product may contribute to the intensity of a fire and decompose to produce a variety of compounds (e.g., carbon monoxide, carbon dioxide, phosphorous compounds, and sulfur oxides). This product is not reactive under typical circumstances of use or release-response. Emergency responders must wear the proper personal protective equipment suitable for the situation to which they are responding.

**SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE:** The most significant routes of occupational overexposure are inhalation and contact with skin and eyes. The symptoms of overexposure to this product are as follows:

**INHALATION:** If mists or sprays of this solution are inhaled, irritation of the tissues of the respiratory system will occur. Symptoms of such over-exposure can include coughing, nasal congestion, sneezing, and a sore throat. Severe inhalation over-exposures may result in tissue damage, pulmonary edema, and potentially life-threatening lung disorders.

**CONTACT WITH SKIN or EYES:** This solution is a primary irritant of the skin and eyes. Contact with the eyes will cause irritation, pain, reddening. Exposure of the eyes may result in blindness. Skin contact may result in stinging, reddening, discomfort, and irritation. Prolonged exposure may result in chemical burns.

**SKIN ABSORPTION:** Skin absorption is not anticipated to be a significant route of over-exposure for any component of this product.




**INGESTION:** Though ingestion is not anticipated to be a significant route of over-exposure to this product, if this solution is swallowed, irritation of the mouth, throat, esophagus, and other tissues of the digestive system will occur immediately upon contact. Depending on the volume ingested, chemical burns may occur to contaminated tissues. Ingestion of large quantities may be fatal.

**INJECTION:** Though injection is not anticipated to be a significant route of over-exposure to this product, if it occurs, may cause local reddening, tissue swelling, and discomfort.

**HEALTH EFFECTS OR RISKS FROM EXPOSURE:** An Explanation in **Lay Terms**.

**ACUTE:** This solution is corrosive, and can burn and damage eyes, skin, mucous membranes, and any other exposed tissue. If vapors, mists, or sprays are inhaled, irritation of the respiratory system may occur, with coughing, and breathing difficulty. Inhalation may result in central nervous system effects (e.g., drowsiness, dizziness). Though unlikely to occur during occupational use, ingestion or inhalation of large quantities may be fatal.

**CHRONIC:** Repeated skin contact with this product may result in dermatitis (inflammation and reddening of the skin).

HAZARDOUS MATERIAL INFORMATION SYSTEM			
HEALTH		(BLUE)	2
FLAMMABILITY		(RED)	0
REACTIVITY		(YELLOW)	1
PROTECTIVE EQUIPMENT			D
EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		
For routine industrial applications			

## PART II *What should I do if a hazardous situation occurs?*

### 4. FIRST-AID MEASURES

**SKIN EXPOSURE:** If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. Victim must seek medical attention.

**EYE EXPOSURE:** If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek immediate medical attention.

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## 4. FIRST-AID MEASURES--CONTINUED

**INHALATION:** If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

**INGESTION:** If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Victim should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim. Physician's should refer to Section 11 (Toxicological Information) for additional recommendations.

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## 5. FIRE-FIGHTING MEASURES

**FLASH POINT, °C (Tag Closed Cup):** None to boiling

**AUTOIGNITION TEMPERATURE, °C:** Not flammable.

**FLAMMABLE LIMITS (in air by volume, %):** Lower (LEL): Not applicable.  
Upper (UEL): Not applicable.

### FIRE EXTINGUISHING MATERIALS:

Water Spray: NO                      Carbon Dioxide: YES  
Foam: YES                              Dry Chemical: YES  
Halon: YES                              Other: Any "ABC" Class.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This product can be very irritating to contaminated tissue, and presents a moderate contact hazard to firefighters.

Though not flammable, this product may contribute to the intensity of a fire. When involved in a fire, this material may decompose and produce irritating fumes and toxic gases (including carbon monoxide, carbon dioxide, phosphorous compounds, and sulfur oxides). This solution may react with metals (e.g., aluminum, copper, brass, or zinc) for form flammable hydrogen gas.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

**SPECIAL FIRE-FIGHTING PROCEDURES:** Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed containers if it can be done without risk to firefighters. If possible, prevent run-off water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, decontaminate fire-response equipment with acid neutralizing agent (e.g., sodium bicarbonate solution).

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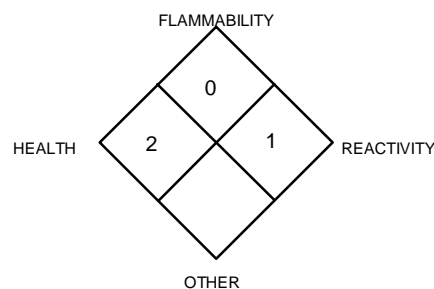
## 6. ACCIDENTAL RELEASE MEASURES

**SPILL AND LEAK RESPONSE:** In case of a release, clear the affected area, protect people, and respond with trained personnel. Uncontrolled releases should be responded to by appropriately trained personnel in proper personal protective equipment, using pre-planned procedures.

The proper personal protective equipment for incidental releases (e.g., 1 L of the product released in a well-ventilated area) should be neoprene gloves, goggles, face-shield, and appropriate body protection). In the event of a non-incident spill (e.g., uncontrolled release of 55 gallons), minimum Personal Protective Equipment should be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard-hat, and Self-Contained Breathing Apparatus.**

Absorb spilled liquid with polypads or other suitable absorbent materials. Neutralize residue with lime or soda ash or other acid neutralizing agent. Decontaminate the area thoroughly. Test area with litmus paper to confirm neutralization. Place all spill residue in a suitable container. Dispose of in accordance with Federal, State, and local hazardous waste disposal regulations (see Section 13, Disposal Considerations).

### NFPA RATING



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## **PART III** *How can I prevent hazardous situations from occurring*

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### **7. HANDLING and STORAGE**

**WORK PRACTICES AND HYGIENE PRACTICES:** As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash hands after handling this product. Do not eat, drink, or smoke while handling this material. Remove contaminated clothing immediately. Use ventilation and other engineering controls to minimize potential exposure to this product.

**STORAGE AND HANDLING PRACTICES:** All employees who handle this material should be trained to handle it safely. Avoid breathing mists or sprays generated by this product. Never add water to this product, always add product (with constant stirring) slowly to surface of lukewarm water, to assure product is being completely dissolved as it is added. Never add more product than can be absorbed by solution, to prevent boiling and spattering of solution. Use in a well-ventilated location.

**For Non-Bulk Containers:** Open containers slowly, on a stable surface. Containers of this product must be properly labeled. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers, or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Do not mix this product with chlorine sanitizers or chlorinated cleaners; a deadly gas can be formed. Keep container tightly closed when not in use. Wash thoroughly after using this material. Storage areas should be made of fire-resistant materials. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Empty containers may contain residual liquid; therefore, empty containers should be handled with care.

**Bulk Containers:** All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks promptly.

**Tank Car Shipments:** Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level and wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tank (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be clean and free of incompatible chemicals, prior to connection to the tank car or vessel. Valves and hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.

**PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:** Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely, as appropriate. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures.

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### **8. EXPOSURE CONTROLS - PERSONAL PROTECTION**

**VENTILATION AND ENGINEERING CONTROLS:** Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems to ensure that there is no potential for overexposure to sprays, or mists of this product and that exposures are below those in section 2 (Composition and Information on Ingredients). Ensure eyewash/safety shower stations are available near areas where this product is used.

**RESPIRATORY PROTECTION:** Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, or applicable State regulations. Use supplied air respiration protection if oxygen levels are below 19.5% or are unknown. The following NIOSH respiratory protection recommendations are for Phosphoric Acid, one of the main components of this product.

#### **CONCENTRATION**

UP TO 25 mg/m<sup>3</sup>:

UP TO 50 mg/m<sup>3</sup>:

UP TO 1000 mg/m<sup>3</sup>:

**EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS:** Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

**ESCAPE:**

**NOTE:**

#### **RESPIRATORY EQUIPMENT**

SAR operated in a continuous flow mode.

Full-facepiece respirator with high-efficiency particulate filter(s); or full-facepiece SCBA; or full-facepiece SAR.

Positive pressure, full-facepiece SAR.

Full-facepiece respirator with high-efficiency particulate filter(s); or escape-type SCBA.

The IDLH concentration for phosphoric acid is 1000 mg/m<sup>3</sup>.

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## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION--CONTINUED

**EYE PROTECTION:** Splash goggles or safety glasses. Face-shields are recommended when working with more than one-gallon of this product, or when the operation can generate splashes, sprays or mists.

**HAND PROTECTION:** Wear neoprene gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 of this MSDS (Accidental Release Measures).

**BODY PROTECTION:** Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from natural rubber are generally acceptable, depending upon the task.

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## 9. PHYSICAL and CHEMICAL PROPERTIES

**RELATIVE VAPOR DENSITY (air = 1):** > 1

**SPECIFIC GRAVITY (water = 1):** 1.155

**SOLUBILITY IN WATER:** Completely soluble.

**VAPOR PRESSURE, mm Hg @ 25 °C:** Not established.

**ODOR THRESHOLD:** Not established

**LOG WATER/OIL DISTRIBUTION COEFFICIENT:** Not available.

**EVAPORATION RATE (n-BuAc=1):** Similar to water.

**MELTING/FREEZING POINT:** Not established.

**BOILING POINT:** Not established.

**pH:** less than 1

**APPEARANCE AND COLOR:** This product is a clear, amber solution with a pungent odor.

**HOW TO DETECT THIS SUBSTANCE (warning properties):** Litmus paper will turn red upon contact with this solution.

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## 10. STABILITY and REACTIVITY

**STABILITY:** Stable.

**DECOMPOSITION PRODUCTS:** Thermal decomposition products of this solution can include carbon monoxide, carbon dioxide, phosphoric compounds, and sulfur oxides.

**MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:** This product reacts with bases, reducing agents, strong oxidizers, chlorinated products, organic peroxides, metals, fluorides, halogenated organic compounds, mercaptans, silicides, carbides, cyanides, sulfides and mercaptans. Do not mix this product with chlorine sanitizers or chlorinated cleaners; a deadly gas can be formed.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Avoid exposure or contact to extreme temperatures and incompatible chemicals.

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## PART IV *Is there any other useful information about this material?*

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## 11. TOXICOLOGICAL INFORMATION

**TOXICITY DATA:** Additional toxicology information for components greater than 1 percent in concentration is provided below.

### PHOSPHORIC ACID:

Skin Irritancy (rabbit) = 595 mg/ 24 hours; severe

Skin Irritancy (rabbit) = 0.5 ml/ 75-85%/ 24 hours;

corrosive

Skin Irritancy (rabbit) = 0.5 ml/ 85%/ 4 hours;

corrosive

Eye Irritancy (rabbit) = 119 mg; severe

Eye Irritancy (rabbit) = 0.1 ml/ 75-85%; corrosive

Eye Irritancy (rabbit) = 17% solution; mild

Acute Skin Contact (rabbit) = 631-7940 mg/kg/ 24

hours; reduced appetite, increasing weakness, collapse, and death

LDLo (unreported, man) = 220 mg/kg

TCLo (inhalation, human) = 100 mg/m<sup>3</sup>

LD<sub>50</sub> (oral, rat) 1530 mg/kg

LD<sub>50</sub> (oral, rat) 3500 mg/kg/ 85% aqueous solution

LD<sub>50</sub> (oral, rat) 4200 mg/kg/ 80% aqueous solution

LD<sub>50</sub> (oral, rat) 4400 mg/kg/ 5% aqueous solution

LD<sub>50</sub> (skin, rabbit) 2740 mg/kg

LC<sub>50</sub> (mouse) 25.5 mg/m<sup>3</sup>

LD<sub>50</sub> (oral, mouse) 1250 mg/kg

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## 11. TOXICOLOGICAL INFORMATION--CONTINUED

SUSPECTED CANCER AGENT: The components of this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA; and are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product is a primary irritant to contaminated tissue.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a sensitizer upon or prolonged or repeated.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product and its components are not reported to produce mutagenic effects in humans.

Embryotoxicity: This product and its components are not reported to produce embryotoxic effects in humans.

Teratogenicity: This product and its components are not reported to cause teratogenic effects in humans.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

*A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.*

BIOLOGICAL EXPOSURE INDICES: Currently there are no Biological Exposure Indices (BEIs) associated with the components of this product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE Skin disorders can be aggravated by over-exposure to this product. Inhalation of this products mists may aggravate respiratory conditions.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate over-exposure to this product. In the event of ingestion over-exposures, probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsions may be needed.

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## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The components of this product are relatively stable in the environment; they may degrade, after time, into other organic and inorganic constituents. Additional environmental data are available as follows:

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further toxicological data.

EFFECT OF CHEMICAL ON AQUATIC LIFE This product can substantially lower the pH of an aquatic environment and can be extremely toxic to fish and aquatic plants. Additional aquatic data for the components of this product are available as follows:

### **PHOSPHORIC ACID:**

Food Chain Concentration Potential: Very Low

TLm (immersion, mosquito fish) = 138 ppm/ 24-96 hours/ turbid water

Chronic Hazard Level: The abundance of phosphates threatens algal blooms in fresh and some salt waters

Waterfowl toxicity: No data available

Biological Oxygen Demand (BOD): None

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### 13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

EPA WASTE NUMBER: Not applicable to wastes consisting only of this solution.

NOTE: This product is toxic to fish. Keep out of lakes, ponds, or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other water unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) Permit and the permitting authority has been notified in writing prior to discharge. For guidance, contact the State Waster Board or Regional Office of the EPA.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to the label instruction, contact the State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer the container for recycling or reconditioning. Alternatively, puncture the container and dispose of in a procedure approved by State and local authorities.

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### 14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Corrosive liquid, acidic inorganic, n.o.s. (Phosphoric and Sulfuric Acid)  
HAZARD CLASS NUMBER and DESCRIPTION: 8 (Corrosive Material)  
UN IDENTIFICATION NUMBER: UN 3264  
PACKING GROUP: II  
DOT LABEL(S) REQUIRED: Corrosive  
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 154

MARINE POLLUTANT: This product does not contain any components which are designated by the Department of Transportation to be Marine Pollutants. (49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

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### 15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: The components of this product subject to the reporting requirements of Section 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act are as follows.

COMPONENT	SARA 302	SARA 304	SARA 313
Phosphoric Acid	NO	YES	YES
Sulfuric Acid	YES	YES	NO

SARA Threshold Planning Quantity: Not applicable.

TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Phosphoric Acid = 5000 lbs.  
Sulfuric Acid = 1000 lbs

OTHER FEDERAL REGULATIONS: The labeling and use requirements of the Federal Insecticide, Fungicide, and Rodenticide Act are applicable to this product. The EPA Registration Number for this product is: No. 4959-41-70567.

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## 15. REGULATORY INFORMATION (Continued)

STATE REGULATORY INFORMATION: Components of this product are covered under specific State regulations, as denoted below:

**Alaska - Designated Toxic and Hazardous Substances:** Phosphoric Acid.

**California - Permissible Exposure Limits for Chemical Contaminants:** Phosphoric Acid.

**Florida - Substance List:** Phosphoric Acid.

**Illinois - Toxic Substance List:** Phosphoric Acid.

**Kansas - Section 302/313 List:** Phosphoric Acid.

**Massachusetts - Substance List:** Phosphoric Acid.

**Michigan - Critical Materials Register: No. Minnesota - List of Hazardous Substances:** Phosphoric Acid.

**Missouri - Employer Information/Toxic Substance List:** Phosphoric Acid.

**New Jersey - Right to Know Hazardous Substance List:** Phosphoric Acid.

**North Dakota - List of Hazardous Chemicals, Reportable Quantities:** Phosphoric Acid.

**Pennsylvania - Hazardous Substance List:** Phosphoric Acid, Dodecylbenzene Sulfonic Acid.

**Rhode Island - Hazardous Substance List:** Phosphoric Acid.

**Texas - Hazardous Substance List:** Phosphoric Acid.

**West Virginia Substance List:** Phosphoric Acid.

**Wisconsin - Toxic and Hazardous Substances:** Phosphoric Acid.

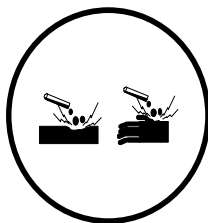
CALIFORNIA PROPOSITION 65: No component of this product is on the California Proposition 65 lists.

LABELING (Precautionary Statements): **WARNING!** HAZARD TO HUMANS AND DOMESTIC ANIMALS. SKIN AND EYE IRRITANT. PROLONGED CONTACT WITH LIQUID AND MIST MAY CAUSE BURNS. MAY BE HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. Do not get into eyes, on skin or clothing. Avoid breathing spray or mist. Do not take internally. Use with adequate ventilation and employ respiratory protection when exposed to the mist or spray. When handling, wear chemical splash goggles, face shield, rubber gloves and protective clothing. Do not transfer to unlabeled containers. Wash thoroughly after handling, Keep container closed when not in use. Do not mix with chlorine sanitizers or chlorinated cleaners. FIRST AID: In case of contact, immediately flush skin or eyes for at least 15 minutes. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not induce vomiting. IN CASE OF FIRE: Use dry chemical, CO<sub>2</sub>, or alcohol foam. IN CASE OF SPILL: Neutralize residue with acid neutralizing agent. Refer to MSDS for additional information.

TARGET ORGANS: Skin, eyes, central nervous system, and respiratory system.

WHMIS SYMBOLS:

**Class E:** Corrosive Material



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## 16. OTHER INFORMATION

**PREPARED BY:**

BCS EH&S

THIS INFORMATION IS DRAWN FROM RECOGNIZED SOURCES BELIEVED TO BE RELIABLE. BASIC CHEMICAL SOLUTIONS MAKES NO GUARANTEES NOR ASSUMES ANY LIABILITY IN CONNECTION WITH THIS INFORMATION. THE USER SHOULD BE AWARE OF CHANGING TECHNOLOGY, RESEARCH, REGULATIONS AND ANALYTICAL PROCEDURES THAT MAY REQUIRE CHANGES HEREIN. THE ABOVE DATA IS SUPPLIED UPON THE CONDITION THAT PERSONS WILL EVALUATE THIS INFORMATION AND THEN DETERMINE ITS SUITABILITY FOR THEIR USE.

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## 16. OTHER INFORMATION-- CONTINUED

### DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

**CAS #:** This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

#### EXPOSURE LIMITS IN AIR:

**ACGIH** - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.

**TLV - Threshold Limit Value** - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour **Time Weighted Average (TWA)**, the 15-minute **Short Term Exposure Limit**, and the instantaneous **Ceiling Level**. Skin adsorption effects must also be considered.

**OSHA** - U.S. Occupational Safety and Health Administration.

**PEL - Permissible Exposure Limit** - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.

**IDLH - Immediately Dangerous to Life and Health** - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). NIOSH issues exposure guidelines called **Recommended Exposure Levels (RELs)**. When no exposure guidelines are established, an entry of **NE** is made for reference.

#### FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the **National Fire Protection Association (NFPA)**. **LEL** - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. **UEL** - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

#### TOXICOLOGICAL INFORMATION:

Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD<sub>50</sub>** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC<sub>50</sub>** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m<sup>3</sup>** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause death. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

#### REGULATORY INFORMATION:

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Other acronyms used are: **Superfund Amendments and Reauthorization Act (SARA)**; the **Toxic Substance Control Act (TSCA)**; Marine Pollutant status according to the **DOT**; California's Safe Drinking Water Act (**Proposition 65**); the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)**; and various state regulations. This section also includes information on the precautionary warnings which appear on the materials package label.