MATERIAL SAFETY DATA SHEET

SECTION 1. -- -- -- -- -- CHEMICAL IDENTIFICATION -- -- -- -- --

PRODUCT #: NAME: PHOSPHORIC ACID 85% CERTIFIED

SECTION 2. -- -- -- -- -- COMPOSITION/INFORMATION ON INGREDIENTS -- -- -- -- --

CAS #: 7664-38-2

SYNONYMS
ACIDE PHOSPHORIQUE (FRENCH) * ACIDO FOSFORICO (ITALIAN) * FOSFORZUUR (DUTCH) * ORTHOPHOSPHORIC ACID * PHOSPHORIC ACID (ACGIH, DOT, OSHA) * PHOSPHORSAURE (GERMAN) * UN1805 (DOT) *

SECTION 3. -- -- -- -- -- HAZARDS IDENTIFICATION -- -- -- -- --

LABEL PRECAUTIONARY STATEMENTS
CORROSIVE. CAUSES BURNS.
HARMFUL BY INHALATION. IN CONTACT WITH SKIN AND IF SWALLOWED.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

SECTION 4. -- -- -- -- -- FIRST-AID MEASURES -- -- -- -- --

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
DISCARD CONTAMINATED SHOES.

SECTION 5. -- -- -- -- -- FIRE FIGHTING MEASURES -- -- -- -- --

EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

CONTINUED ON NEXT PAGE
PRODUCT #: 2-097-94816
NAME: PHOSPHORIC ACID 85% CERTIFIED

SECTION 6. ACCIDENTAL RELEASE MEASURES
Evacuate area.
Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
Cover with dry lime or soda ash, pick up. Keep in a closed container and hold for waste disposal.
Ventilate area and wash spill site after material pickup is complete.

SECTION 7. HANDLING AND STORAGE
Refer to Section 8.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.
Safety shower and eye bath.
Use only in a chemical fume hood.
Face shield (8-inch minimum).
Do not breathe dust.
Do not get in eyes, on skin or on clothing.
Avoid prolonged or repeated exposure.
Wash thoroughly after handling.
Corrosive.
Harmful solid.
Keep tightly closed.
Hygroscopic.
Handle and store under Argon.
Refrigerate.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

CONTINUED ON NEXT PAGE
MATERIAL SAFETY DATA SHEET

PRODUCT #: UNI-41251

NAME: PHOSPHORIC ACID 85% CERTIFIED

CUST#: 2-097-94816

SECTION 1. IDENTIFICATION

APPEARANCE AND ODOR: COLORLESS LIQUID
FLASHPOINT: NONE
VAPOR PRESSURE: 2.2 MM 20 C
VAPOR DENSITY: 3.4
SPECIFIC GRAVITY: 1.695

INCOMPATIBILITIES: STRONG BASES, FINELY POWDERED METALS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.

SECTION 2. HAZARDS IDENTIFICATION

ACUTE EFFECTS: HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN. MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN. INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDema OF THE LARYNX AND BRONCHI. CHEMICAL PNEUMONITIS AND PULMONARY EDema. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. MAY CAUSE CYANOSIS (BLUE-GRAY COLORING OF SKIN AND LIPS CAUSED BY LACK OF OXYGEN). TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS NO: TB6300000

PHOSPHORIC ACID

IRRITATION DATA
SKIN: RBT 595 MG/24H SEV
EYE: RBT 119 MG SEV

TOXICITY DATA
UN-NH-MAN LD50 >220 MG/KG
GL-LH-MAN LD50 >1530 MG/KG
SK-RBT LD50 >2740 MG/KG

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)

CONTINUED ON NEXT PAGE
MATERIAL SAFETY DATA SHEET

PRODUCT #: CUST# 2-097-94816
NAME: PHOSPHORIC ACID 85% CERTIFIED
PO#: UND-41251

SECTION 12. — — — — — — — — — — ECOLOGICAL INFORMATION

SECTION 13. — — — — — — — — — — DISPOSAL CONSIDERATIONS

FOR SMALL QUANTITIES, CAUTIOUSLY ADD TO A LARGE STIRRED EXCESS OF WATER. ADJUST THE PH TO NEUTRAL, SEPARATE ANY INSOLUBLE SOLIDS OR LIQUIDS AND PACKAGE THEM FOR HAZARDOUS WASTE DISPOSAL. FLUSH THE AQUEOUS SOLUTION DOWNS THE DRAIN WITH PLENTY OF WATER. THE HYDROLYSIS AND NEUTRALIZATION REACTIONS MAY GENERATE HEAT AND FUMES WHICH CAN BE CONTROLLED BY THE RATE OF ADDITION.

SECTION 14. — — — — — — — — — — TRANSPORT INFORMATION

SECTION 15. — — — — — — — — — — REGULATORY INFORMATION

REVIEWS, STANDARDS, AND REGULATIONS

ACGIH TLV-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3
OSHA PEL-TWA 1 MG/M3; STEL 3 MG/M3

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MATERIAL SAFETY DATA SHEET

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PRODUCT #: NAME: PHOSPHORIC ACID 85% CERTIFIED

SECTION 16. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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