



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300 or 202-483-7616

MATERIAL SAFETY DATA SHEETS

Part Number/Trade Name: FORMIC ACID (88-91%)
This MSDS is valid for all grades and catalog numbers

General Information

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| Company's Name: PHARMCO PRODUCTS, INC. | Date MSDS Revised: Nishant-8/23/99 |
| Company's Street: 58 VALE RD. | Safety Data Review Date: 8/23/99 |
| Company's City: BROOKFIELD | Preparer's Company: PHARMCO PRODUCTS, INC. |
| Company's State: CT | Preparer's St Or P. O. Box: 58 VALE RD. |
| Company's Zip Code: 06804 | Preparer's City: BROOKFIELD |
| Company's Emerg Ph #: (203) 740-3471 | Preparer's State: CT |
| Company's Info Ph #: (203) 740-3471 | Preparer's Zip Code: 06804 |

Ingredients/Identity Information

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| Ingredient: FORMIC ACID (SARA III) | CAS Number: 64-18-6 |
| Ingredient Sequence Number: 01 | OSHA PEL: 5 PPM |
| Percent: 88.0 | ACGIH TLV: 5 PPM/10 STEL; 9192 |
| NIOSH (RTECS) Number: LQ4900000 | |

Physical/Chemical Characteristics

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| Appearance And Odor: CLEAR COLORLESS LIQUID.CHARACTERISTIC PUNGENT ODOR | Specific Gravity: 1.2 |
| Boiling Point: 107C(225F) | Decomposition Temperature: UNKNOWN |
| Melting Point: 10.4F/-12C | Evaporation Rate And Ref: 2.1 (BUT ACETATE=1) |
| Vapor Pressure (MM Hg/70 F): 40 | Solubility In Water: COMPLETE |
| Vapor Density (Air=1): 1.6 | Percent Volatiles By Volume: 100 |
| | Corrosion Rate (IPY): UNKNOWN |

Fire and Explosion Hazard Data

Flash Point: 122F/50C (90%)
Flash Point Method: CC
Lower Explosive Limit: 18.0

Upper Explosive Limit: 57.0
Extinguishing Media: DRY CHEM,FOAM OR CO2;WATER SPRAY:USE TO COOL EXPOS
CONTNRS
Special Fire Fighting Proc: INEVENT OF A FIRE WEAR FULL PROTECTIVE
CLOTHING AND NIOSH APPROVED SCBA W/ FULL FACEPIECE OPERATED IN PRESSURE
DEMAND MODE.
Unusual Fire And Expl Hazrds: SUPPLIER DID NOT ADDRESS THIS FIELD.

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Reactivity Data

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| Stability: YES | ETC. |
| Cond To Avoid (Stability): HEAT, IGNITION SOURCES | Hazardous Decomp Products: CO, CO2 WHEN HEATD TO DECOMPOSITION; DEHYDRTD BY H2SO4 TO CO |
| Materials To Avoid: STRONG OXIDIZERS,CAUSTICS & BASES,HYDROGEN PEROXIDE, | Hazardous Poly Occur: NO Conditions To Avoid (Poly): UNKNOWN |

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Health Hazard Data

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Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: ACUTE:CORROSIVE TO ALL BODY TISSUES;CORNEAL DAMAGE TO EYES;REDNESS OF SKIN,PAIN OR BURNS;IRRITATION OF NOSE,THROAT, RESPIRATORY TRACT. CHRONIC:LUNG,EYE DAMAGE;DERMATITIS,IRRITATION;BURNS.
Explanation Carcinogenicity: THIS PRODUCT IS NOT LISTED BY NTP, IARC, OR OSHA
Signs/Symptoms Of Overexp: INHALED: SEVERE IRRITATION OF RESPIRATORY TRACT. INGESTION: CORROSION, BURNS OF THROAT AND MOUTH. ABDOMINAL PAIN, NAUSEA, DIARRHEA, AND VOMITING. SKIN: SEVERE IRRITATION, REDNESS, PAIN, BURNS. EYE: VAPORS CAUSE SEVERE IRRITATION, LIQUID, CORROSIVE, BURNS, CORNEAL DAMAGE.
Med Cond Aggravated By Exp: NO INFORMATION FOUND
Emergency/First Aid Proc: INHAL:MOVE TO FRESH AIR.IF NEEDED,GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTN. INGEST:DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE SEVERAL GLASSES OF WATER. GET IMMEDIATE MEDICAL ATTN. SKIN:REMOVE CONTAMINATED CLOTHING AND FLUSH W/WATER FOR 15 MIN. IF IRRITATION PERSISTS, GET MEDICAL ATTN. EYE: IMMEDIATELY FLUSH W/PLENTY OF WATER FOR AT LEAST 15 MIN, LIFTING EYELIDS. GET MEDICAL ATTN.

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Precautions for Safe Handling and Use

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Steps If Matl Released/Spill: VENTILATE & EVACUATE AREA. ELIMINATE IGNITION SOURCES. WEAR PERSONAL PROTECTIVE EQUIPMENT. CONTAIN & RECOVER LIQUID WHEN POSSIBLE. SPILLS MAY BE ABSORBED W/INERT MATERIAL OR PLACED IN A CONTAINER (AS LIQUID) PENDING DISPOSAL. DO NOT FLUSH TO SEWER.
Neutralizing Agent: NO INFORMATION GIVEN ON MSDS BY SUPPLIER
Waste Disposal Method: COLLECTED SPILLS MAY BE ATOMIZED IN A RCRA-APPROVED COMBUSTION CHAMBER OR SHIPPED TO RCRA APPROVED FACILITY.
Precautions-Handling/Storing: KEEP IN TIGHTLY CLOSED CONTNRS AT COOL,DRY, VENTILATED PLACE.PROTECT AGAINST PHY DAMAGE.ISOLATE FROM INCOMPATIBLE MATL

& OUT OF DIRECT SUNLIGHT.

Other Precautions: AVOID BREATHING MIST.USE W/ADEQUATE VENTILATION.KEEP CONTAINRS CLOSED.WASH THOROUGHLY AFTER HANDLING.AVOID SKIN,EYES & CLOTHING

CONTACT. DANGER! CORROSIVE.CAUSES SEVER BURNS.HARMFUL IF SWALLD.

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Control Measures

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Respiratory Protection: USE NIOSH/MSHA APPROVED FULL FACE PIECE CHEMICAL CARTRIDGE RESPIRATOR UP TO 100X TLV OR FULL FACE PIECE AIR LINE RESPIRATOR OR SCBA IF ABOVE THAT LEVEL.

Ventilation: USE GENERAL AND LOCAL EXHAUST AS NEEDED TO MAINTAIN EXPOSURES BELOW PEL/TLV.

Protective Gloves: NEOPRENE OR RUBBER.

Eye Protection: SPLASH GOGGLES AND/OR FACE SHIELD

Other Protective Equipment: FULL IMPERVIOUS PROTECTIVE CLOTHING,SAFETY SHOWER,EYE WASH STATION

Work Hygienic Practices: USE STRICT CHEMICAL HYGIENE PRACTICE. AVOID ALL CONTACT IF POSSIBLE. WASH THOROUGHLY BEFORE EATING OR DRINKING.

Suppl. Safety & Health Data: NONE

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Transportation Data

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Trans Data Review Date: 92295

DOT PSN Code: GNR

DOT Proper Shipping Name: FORMIC ACID

DOT Class: 8

DOT ID Number: UN1779

DOT Pack Group: II

DOT Label: CORROSIVE

IMO PSN Code: HMT

IMO Proper Shipping Name: FORMIC ACID

IMO Regulations Page Number: 8177

IMO UN Number: 1779

IMO UN Class: 8

IMO Subsidiary Risk Label: -

IATA PSN Code: MLB

IATA UN ID Number: 1779

IATA Proper Shipping Name: FORMIC ACID

IATA UN Class: 8

IATA Label: CORROSIVE

AFI PSN Code: MLB

AFI Prop. Shipping Name: FORMIC ACID

AFI Class: 8

AFI ID Number: UN1779

AFI Pack Group: II

AFI Label: CORROSIVE

AFI Basic Pac Ref: 12-5

Additional Trans Data: RQ FORMIC ACID = 5000 POUNDS

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Disposal Data

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Refer to applicable regional, state and federal codes.

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Label Data

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Common Name: FORMIC ACID

Signal Word: DANGER!

Acute Health Hazard-Slight: X

Contact Hazard-Severe: X

Fire Hazard-Severe: X

Reactivity Hazard-None: X

Special Hazard Precautions: ACUTE:CORROSIVE TO ALL BODY TISSUES;CORNEAL DAMAGE TO EYES;REDNESS OF SKIN,PAIN OR BURNS;IRRITATION OF NOSE,THROAT, RESPIRATORY TRACT. CHRONIC:LUNG,EYE DAMAGE;DERMATITIS,IRRITATION;BURNS. KEEP IN TIGHTLY CLOSED CONTNRS AT COOL,DRY, VENTILATED PLACE.PROTECT AGAINST PHY DAMAGE.ISOLATE FROM INCOMPATIBLE MATL & OUT OF DIRECT SUNLIGHT.

SUPPLIER DID NOT ADDRESS THIS FIELD. IN CASE OF SPILL: VENTILATE & EVACUATE AREA. ELIMINATE IGNITION SOURCES. WEAR PERSONAL PROTECTIVE EQUIPMENT. CONTAIN & RECOVER LIQUID WHEN POSSIBLE. SPILLS MAY BE ABSORBED W/INERT MATERIAL OR PLACED IN A CONTAINER (AS LIQUID) PENDING DISPOSAL. DO NOT FLUSH TO SEWER.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y

The information contained herein is based on data considered to be accurate. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use of the product.