MATERIAL SAFETY DATA SHEET
OXALIC ACID DIHYDRATE

Company Identification

NORMAN, FOX & CO.
14970 Don Julian Road
Industry, CA 91744

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Information / Emergency Telephone
CHEMTREC
DOMESTIC NORTH AMERICA 800-424-9300
INTERNATIONAL, CALL: 703-527-3887 (collect calls accepted)

Product Identification

PRODUCT NAME: Oxalic Acid, Dihydrate
CAS #: 6153-56-6
Molecular Formula: $C_2H_2O_4.2H_2O$
Molecular Weight: 126.07

Ingredients/Identity Information

Proprietary: NO
Ingredient: OXALIC ACID (DIHYDRATE)
Ingredient Sequence Number: 01

Physical/Chemical Characteristics

Appearance And Odor: COLORLESS, TRANSPARENT SOLID - ODORLESS
Boiling Point: 300F - 320F
Melting Point: 215F,102C
Specific Gravity: 1.65
Decomposition Temperature: UNKNOWN
Evaporation Rate And Ref: NOT RELEVANT
Solubility In Water: SOLUBLE 100 G/LITER
Viscosity: NOT RELEVANT
pH: 1.3
Radioactivity: NOT RELEVANT
Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: NONE
Lower Explosive Limit: NOT RELEVANT
Upper Explosive Limit: NOT RELEVANT
Extinguishing Media: USE WATER SPRAY, CARBON DIOXIDE, ALCOHOL FOAM OR DRY CHEMICAL. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY.
Special Fire Fighting Proc: WEAR PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS. HAZARDOUS DECOMPOSITION PRODUCTS MAY BE FORMED.
Unusual Fire And Expel Hazards: AS WITH ANY FINELY DIVIDED ORGANIC SOLID, DUST MAY BE EXPLOSIVE IF MIXED WITH AIR IN CRITICAL PROPORTIONS AND IN THE PRESENCE OF AN IGNITION SOURCE.

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Reactivity Data

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Stability: YES
Cond To Avoid (Stability): EXCESSIVE HEAT (215F/102C)
Materials To Avoid: OXIDIZING AGENTS, BASES, SILVER, ALKALI METALS, IRON AND IRON COMPOUNDS, ACID CHLORIDES
Hazardous Decamp Products: CARBON MONOXIDE, CARBON DIOXIDE AND FORMIC ACID MAY BE FORMED. FUMES MAY BE TOXIC AND IRRITATING.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT

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Health Hazard Data

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LD50-LC50 Mixture: LD50 (ORAL, RAT) IS UNKNOWN.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: TARGET ORGANS:EYES, SKIN, KIDNEY, RESPIRATORY & GI TRACTS. ACUTE- POISON, MAY BE FATAL IF SWALLOWED/INHALED. CONTACT MAY CAUSE DISCOLORATION, IRRITATION/BURNS OF SKIN. SEVERE EYE IRRITANT. CAN PRODUCE IRREVERSIBLE EYE DAMAGE AFTER REPEATED CONTACT. LARGE
DOSES CAN CAUSE IRREGULAR HEATBEAT, KIDNEY DAMAGE. CHRONIC- UNK.
Carcinogen city - NTP: NO
Carcinogen city - IARC: NO
Carcinogen city - OSHA: NO
Explanation Carcinogen city: NONE
Signs/Symptoms Of Overexp: BURNS, SEVERE IRRITATION, PAIN, NAUSEA, VOMITING, SHORTNESS OF BREATH, COUGHING, SORE THROAT, REDNESS OF EYES AND SKIN, SHOCK, CONVULSION, COMA, HEADACHE, DIFFICULT BREATHING, POSSIBLY DEATH
Med Cond Aggravated By Exp: PERSONS WITH PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS OR IMPAIRED KIDNEY OR RESPIRATORY FUNCTION MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS PRODUCT.
Emergency/First Aid Proc: GET MEDICAL ATTENTION. EYES/SKIN:FLUSH WITH WATER FOR 15 MINUTES. HOLD EYELIDS OPEN. REMOVE CONTAMINATED CLOTHING. INHALED:REMOVE TO FRESH AIR. PROVIDE CPR/OXYGEN IF NEEDED. ORAL:DO NOT INDUCE VOMITING. IF CONSCIOUS, DRINK PLENTY OF WATER. IF VOMITING OCCURS, KEEP HEAD LOWER THAN HIPS TO PREVENT ASPIRATION.

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Precautions for Safe Handling and Use

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Steps If Matl Released/Spill: WEAR PROTECTIVE EQUIPMENTS. RECOVER IF POSSIBLE. SWEEP OR VACUUM INTO CLOSED CONTAINERS FOR DISPOSAL. AVOID DUST
GENERATION.
Neutralizing Agent: SODIUM BICARBONATE
Waste Disposal Method: DISCHARGE, TREATMENT OR DISPOSAL MAY BE SUBJECT TO LOCAL, STATE AND FEDERAL REGULATIONS. AS SHIPPED, NOT REGULATED AS A HAZARDOUS WASTE. INCINERATION/RECYCLING OR REUSE IS RECOMMENDED.
Precautions-Handling/Storing: STORE IN TIGHTLY CLOSED CONTAINER IN COOL, DRY, WELL VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. KEEP AWAY FROM FOOD AND DRINK.

Other Precautions: USE WITH ADEQUATE VENTILATION. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. DO NOT GENERATE DUST. DO NOT BREATHE DUST. KEEP OUT OF REACH OF CHILDREN. WASH THOROUGHLY AFTER HANDLING. EMPTY CONTAINERS RETAIN RESIDUE AND CAN BE DANGEROUS.

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Control Measures

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Respiratory Protection: NONE NORMALLY REQUIRED. UP TO 25 MG/M3, WEAR NIOSH-APPROVED POWERED AIR-PURIFYING RESPIRATOR WITH DUST AND MIST FILTERS/SUPPLIED AIR-RESPIRATOR. UP TO 50 MG/M3, WEAR A FULL FACE-PIECE RESPIRATOR. UP TO 500 MG/M3, WEAR POSITIVE PRESS SCBA.
Ventilation: USE LOCAL EXHAUST (CORROSION-RESISTANT) TO CONTROL AIRBORNE DUSTS.
Protective Gloves: NATURAL RUBBER, NEOPRENE, NITRILE
Eye Protection: CHEMICAL SAFETY GOGGLES &/OR FACESHIELD
Other Protective Equipment: RUBBER BOOTS, RUBBER APRON, EYE WASH FOUNTAIN, SAFETY SHOWER
Work Hygienic Practices: OBSERVE GOOD INDUSTRIAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES. WASH THOROUGHLY BEFORE EATING, DRINKING/SMOKING.
Suppl. Safety & Health Data: DO NOT EAT, DRINK OR SMOKE IN WORK AREAS.

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Transportation Data

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Note: The shipment classification information in the section is meant as a guide to the overall classification of the product. However, transportation classifications may be subjected to change with changes in package size. Consult shipper requirements under I. M. O., I. C. A. O (I.A. T. A.) and 49 CFR to assure regulatory compliance.

US DOT Information

Shipper Name: Not Applicable
Hazard Class: Not Applicable
UN/NA# Not applicable
Packing Group: Not Applicable
Required Labels: Not Applicable.
RQ Quantity: Not Applicable.

International Air Transport Association (IATA)

We classify this product as hazardous (class 9) when shipped by air because 49 CFR 173.140 (a). " For the purpose of this subchapter, miscellaneous hazardous material (class 9) means a material which presents a hazard during transportation, but which does not meet the definition of any other hazard class. This class includes: (a) Any material which has an anesthetic, noxious, or other similar property which could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties."

Proper Shipping Name: Hazardous substance, solid, n.o.s (oxalic acid)
Hazard Class: 9
UN /NS # UN 3077
Packing Group: III
Passenger & Cargo Aircraft Packing Instruction: 914
Passenger & Cargo Aircraft Maximum Net Quantity: No Limit.
Limited Quantity Packing Instruction (Passenger & Cargo Aircraft): Y914
Limited Quantity Maximum Net Quantity (Passenger & Cargo Aircraft): 30 KG
Special Provisions: A97
ERG Code: 9L

International Maritime Organization (I. M. O) Classification
For shipments via marine vessel transport, the following classification information applies.

Proper Shipping Name: Not required.
Hazard Class: Not Applicable
UN /NA #: Not Applicable
Packing Group: Not Applicable.
Special Provision: Not Applicable.
Limited Quantity: Not Applicable.
Packing Instruction: Not Applicable.
EmS: Not Applicable.
Stowage and Segregation: Not Applicable.

While the solid form of this material is not regulated, solutions of oxalic acid dihydrate may meet the criteria for corrosive liquid under transportation regulation and should be tested for applicability of hazardous material transportation regulation.

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Other Information

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