1071

MATERIAL SAFETY DATA SHEET

I.   PRODUCT IDENTIFICATION   *For Dissolved Oxygen*

CATALOG NUMBER: 1071
CAS. NO: 10034-96-5
FORMULA: MnSO4·H2O
CHEMICAL FAMILY: Inorganic Salts

PRODUCT NAME: Manganous Sulfate
CHEMICAL NAME: Manganese Sulfate, Monohydrate

DATE: 10/16/87
CHANGE NO.: 7023

II.   INGREDIENTS

INGREDIENTS	%	CAS NUMBER	TLV	PEL	NATURE of HAZARD
Manganous Sulfate	100	10034-96-5	5 mg/M3 as Mn	Not established	Systemic poison by inhalation

III.   PHYSICAL DATA

STATE: solid | APPEARANCE: Pink powder | ODOR: Not determined

SOLUBILITY IN: WATER: Soluble | ACID: Not determined | OTHER: Not determined

BOILING PT.: NA | MELTING PT.: >400C | SPECIFIC GRAVITY: ND | pH: of 5% soln. = 3.7

VAPOR PRESSURE: Not applicable | VAPOR DENSITY (air=1): NA | EVAPORATION RATE: NA

METAL CORROSIVITY - ALUMINUM: 0.002 in/yr   STEEL: ND | STABILITY: Stable

STORAGE PRECAUTIONS: Store in a cool, dry place.

IV.   FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT.: Not applicable | METHOD: NA | FLAMMABILITY LIMITS - LOWER: NA   UPPER: NA

SUSCEPTIBLITY TO SPONTANEOUS HEATING: None

SHOCK SENSITIVITY: None | AUTOIGNITION PT.: ND

EXTINGUISHING MEDIA: water, carbon dioxide, or dry chemical

FIRE/EXPLOSION HAZARDS: May emit toxic fumes

HAZARDOUS DECOMP. PRODUCTS: May emit toxic fumes of sulfur oxides in fire

OXIDIZER: No | NFPA Codes   Health: 2   Flammability: 0   Reactivity: 1

CONDITIONS TO AVOID: Heat, moisture; contact with aluminum or magnesium

V.   HEALTH HAZARD DATA

THIS PRODUCT MAY BE irritating to eyes, skin and respiratory tract.

ACUTE TOXICITY: Moderately toxic
ROUTES OF EXPOSURE: inhalation
TARGET ORGANS: central nervous system

CHRONIC TOXICITY: Cumulative poison
ROUTES OF EXPOSURE: inhalation
TARGET ORGANS: central nervous system

CARCINOGEN, MUTAGEN, TERATOGEN DATA: Experimental neoplasm formation (benign or malignant tumors)
ROUTES OF EXPOSURE: Not determined
TARGET ORGANS: Not determined

OVEREXPOSURE: Sleepiness, weakness in legs, mask-like facial expression, muscle-twitching, slurred speech. May cause or contribute to upper respiratory infections or pneumonia. Manganese has been reported to cause blood changes.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Alcoholism, liver dysfunction, psychiatric disease, disease of the nervous system or respiratory tract

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VI. PRECAUTIONARY MEASURES

Wash thoroughly after handling.
Avoid contact with eyes, skin and clothing.
Do not breathe chemicals.

PROTECTIVE EQUIPMENT: adequate ventilation, safety glasses, disposable gloves

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VII. FIRST AID

EYE AND SKIN CONTACT: Immediately flush eyes with water for 15 minutes. Call physician. Flush skin with plenty of water.

INGESTION: Give large quantities of water or milk. Call physician immediately.

INHALATION: Remove to fresh air. Give artificial respiration if necessary. Call physician.

VIII. SPILL AND DISPOSAL PROCEDURES

IN CASE OF SPILL OR RELEASE: Scoop into a beaker and dissolve in water. Pour down the drain with excess water.
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

IX. TRANSPORTATION DATA

PROPER SHIPPING NAME: Not Currently Regulated

HAZARD CLASS: Not applicable | ID: NA

X. REFERENCES

1) Gosselin, R.E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984.
2) Sax, N. Irving. Dangerous Properties of Industrial Materials, 6th Ed. New York: Van Nostrand Reinhold Co. 1984.
3) The Merck Index, 10th Ed. Rahway, New Jersey: Merck and Co., Inc., 1983
4) NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards. Cincinnati: Department of Health and Human Services, 1981.
5) TLV's Threshold Limit Values for Chemical Substances in the Work Environment Adopted by ACGIH for 1986-1987. Cincinnati, 1986.
6) 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor)
7) In-house information
8) Technical judgment