

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name..... Water Soluble Fertilizer
Common Name(s).. Granular Fertilizer, Mixed Fertilizer, N-P-K Product
UN/MA #..... N/A **DOT Hazard Class**.....N/A
Shipping Name Fertilizer compound (Manufactured Fertilizer) NOI, Dry

II. INGREDIENTS & RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS

Exposure Limits.....
 Material-Formula-Cas. No.--% Wt.-Osha-Pel-Acgh-TLV *SEE Addendum I

III. PHYSICAL DATA

Density40-70 lb./ft.3
Boiling Point.....N/A, Dry Solid
Melting Point Partially decomposes at 212 F, decomposes to Biuret, Ammonia, Cyanuric Acid, and Nitrogen Oxides. Exposure to smoke fumes and gases can lead to irreversible lung injury without early signs and symptoms.
Vapor Pressure.....N/A **PH**.....6-8 **Vapor Density**.....N/A
Solubility In Water 100% of product is soluble.
Appearance and Odor White, crystals, granules and powder

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point(Method).....N/A
NFPA Rating.....Health 1 - Fire 0 - Reactivity 0 - Special Hazard 0
Flammable Limits(Lel)...N/A (Uel).....N/A
Extinguishing Media..... Water, foam, carbon dioxide or dry chemicals

SPECIAL FIRE FIGHTING PROCEDURES: May emit noxious and toxic fumes when heated to decomposition. Self-contained breathing apparatus should be used. Can be slippery when wet.

*This information is taken from sources or based upon data believed to reliable; however, Knox Fertilizer Company, Inc. makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

V. REACTIVITY DATA

Stability.....This is a stable material.
Conditions to AvoidDo not store in direct sunlight or at temperatures above 120 F.
IncompatibilityGenerally none. Water damages product and may contribute to the release of ammonia vapors.
Hazardous ProductsNoxious fumes under fire conditions. Example: HCL, organo chlorides, oxides of nitrogen and carbon monoxide.
Hazardous Polymerization ... Will not occur.

VI. SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released: In case of release to the environment, report spills to the National Response Center 1-800-424-8802.
Suggested Local Action: Contain spill. Prevent large quantities from contracting vegetation or domestic and natural water sources. If material is not contaminated, collect product and use as intended. If material is contaminated, place in appropriate containers for disposal.

Waste Disposal: (EPA Waste Identification No.: N/A)
 If contaminated with other materials, the nature and extent of contamination may require the use of specialized disposal methods. If disposal is necessary, comply with all local, state and federal regulations. Contact your local EPA office for information.
For Hazardous Waste Regulation call 1-800-424-9346 – the RCRA Hotline

VII. HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: The effect of overexposure as indicated below are for the unimpregnated fertilizer. Except under conditions of severe overexposure, this fertilizer compound is regarded to have a relatively low acute health hazard potential.

INHALATION: Extremely high concentrations of fertilizer dust are typically self-limited due to the nuisance conditions they create. Overexposure may product irritation of the mucous membranes, nose throat, coughing, and shortness of breath. In addition, certain fertilizers may contain small amounts of silica particles less than 5 mm in diameter. These silica particles are capable of causing silicosis if inhaled in high enough concentrations over an extended period of time. The principal manifestation of silicosis is difficulty in breathing. This condition can progress to dry cough, shortness of breath on exertion, decreased lung function and pulmonary fibrosis.

SKIN CONTACT: May cause irritation, particularly on damp skin. Repeated or prolonged contact could lead to dermatitis.

EYE CONTACT: May cause irritation and conjunctivitis.

INGESTION: May produce nausea, vomiting, abdominal discomfort and, if swallowed in very large amounts, may cause increased urination and central nervous system depression.

EMERGENCY AND FIRST AID PROCEDURE

INHALATION: Remove from exposure. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Immediately seek medical aid.

SKIN CONTACT: Wash skin thoroughly with soap and water. Seek medical aid.

EYE CONTACT: Flush immediately with large amounts of water, lifting the lower and upper lids occasionally. Seek medical aid.

INGESTION: Give 1-2 glasses of water or milk. Induce vomiting. Immediately seek medical aid. Never give liquids to an unconscious person.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY: Respiratory protection approved by NIOSH/MSHA for protection against dust should be to avoid inhalation. Appropriate respiration selection depends on the type and magnitude of exposure.

SKIN: Clean body clothing should be worn to prevent irritation in situations where direct contact with product may occur.

EYES: Employees should be required to wear chemical safety splash goggles should be worn in situations where direct contact with product may occur.

VENTILATION: Local exhaust ventilation should be used to control worker exposure to below recommended Permissible Exposure Levels (PEL).

IX. SPECIAL PRECAUTIONS

PRECAUTION TO BE TAKEN IN HANDLING AND STORAGE: Store in a cool, dry location. Do not store near food or feed. Keep out of reach of children and pets.

OTHER COMMENTS: Chronic Effects—Long term exposure to dusts containing fluoride or quartz may product more severe toxicity. Fluoride of the teeth, changes in the kidneys, bones and ligaments, and inhibition of certain enzymes. Chronic exposure and/or high levels of inorganic fluorides administered to experimental animals have been shown to produce changes in several organs and certain enzymes. Adverse reproductive effects have also been suggested. Of the available animal carcinogenicity data, a single inadequately reported study has provided some evidence of the carcinogenicity of sodium fluoride to mice (IARC 27, 237, 82). Quartz dust may reduce nodules in the lungs which may gradually progress to formation of fibrous tissue. Symptoms may include coughing, shortness of breath and wheezing.

ADDENDUM I

Product Name ...Water Soluble	MSDSDry Soluble Fertilizer
Original Issue..... 04/92	Revised 5/21/01
Exposure Limits... See below	

II. INGREDIENTS AND RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS
 NOTE: Consult the guaranteed analysis statement on the above product container to determine which below materials are found in that product.

MATERIALS	FORMULA	CAS.#	% WT.	OSHA-PEL	ACGIH-TLV
Urea	N2H4CO	57-13-6	0-75	NE	NE
Diammonium Phosphate	N2H9PO4	7783-28-0	0-40	50ppm(as NH3)	25ppm(as NH3)
Monoammonium Phosphate	NH4H2PO4	7722-76-1	0-40	5mg/m3	5mg/m3
Muriate of Potash	N2O4	10544-72-6	0-25	5ppm	5ppm
Potassium Nitrate	N/A	7757-79-1	0-75	N/A	N/A
Urea Formaldehyde	N/A	9011-05-6	0-25	NE	NE
Copper Sulfate		67989-88-2	0-1	1mg/m3	1mg/m3
Iron Sulfate		15704-41-5	0-1	NE	NE
Manganese Sulfate		15375-84-5	0-1	5mg/m3 Ceiling 1mg/m3 TWA 3mg/m3 STEL	5mg/m3 Ceiling 1mg/m3 TWA 3mg/m3 STEL
Zinc Sulfate		14025-21-9	0-1	NE	NE

*NE – NON ESTABLISHED

The following dust limits apply

CLASS	OSHA-PEL	SCGIH-TLV
Total Dust (In Air)	15 mg/m3	10 mg/m3
Respirable Dust (In Air)	5 mg/m3	5 mg/m3