

MATERIAL SAFETY DATA SHEET

I. CHEMICAL PRODUCT

Product name: WINTER SURVIVAL 10-18-20
 EPA Registration Number(s) N/A
 Chemical Family: N/A
 Chemical Name: N/A
 *Chemical name of active: N/A
 Shipping Name: Fertilizer compound (Manufactured) NOI, Dry

II. COMPOSITION/INFORMATION ON INGREDIENTS

Exposure Limits
 Material – Formula – Cas. No. – % Wt. – Osha-Pel – Acgih-TLV *SEE
 ADDENUM I

III. PHYSICAL DATA

Density.....40-70 lb. / ft. 3
 Boiling Point.....N/A, Dry Solid
 Melting Point.....Partially decomposes at 212°F
 Vapor Pressure.....N/A PH.....6-8 Vapor Density.....N/A
 Solubility in Water.....40-99% of product is soluble
 Appearance and Odor....Multi-color granules and mild aromatic odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method).....N/A
 NFPA RatingHealth 0 ♦ 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.

This information is taken from sources or based upon data believed to be 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 avoid.....Do not store in direct sunlight or at temperatures above 120° F
 Incompatibility.....Generally none. Water damages product and may contribute to the release of ammonia vapors.
 Hazardous Decompositions
 Products.....Under fire conditions, ammonia, hydrogen chlorides, ethyl sulfide, diethyl sulfide and nitrogen oxides.
 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 contacting 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 Method: (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 RCR A Hotline.

VII. HEALTH HAZARD INFORMATION

EFFECTS OF OVER-EXPOSURE: Indicated below are for the unimpregnated fertilizer. Except under conditions of severe over-exposure, 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. Over-exposure may produce irritation of the mucous membranes, nose, throat, coughing, and shortness of breath. In addition, certain carries may contain small amount 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, particular 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; 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.

EYES 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. Seek immediate medical attention. Never give liquids to an unconscious person.

VIII. SPECIAL PROTECTION INFORMATION:

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

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

EYES: Employees should be required to wear safety glasses in situations where direct contact with the product may result in eye injury.

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

OTHER PROTECTIVE EQUIPMENT: Emergency eye wash stations and deluge safety showers should be available in work area.

IX. SPECIAL PRECAUTIONS

PRECAUTION TO BE TAKEN IN HANDLING AND STORAGE: Store in a cool, dry place. **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 produce 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 (IARC27,237,82). Quartz dust may produce nodules in the lungs which, may gradually progress to the formation of fibrous tissue. Symptoms may include coughing, shortness of breath, and wheezing.

ADDENUM I	
Product NameShaw's Turf Food Fertilizer Exposure Limits... See below	MSDS

II. INGREDIENTS AND RECOMMENDED OCCUPATION 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	N2H9P04	7783-28-0	0-40	55ppm(as NH3)	25ppm (as NH3)
Potassium Chloride	KCL	7447-40-7	0-70	NE	NE
Limestone	CaCO3	1317-65-3	0-50	NE	NE
Dolomitic Limestone	CaCO3(+MgCO3)	16389-88-1	0-40	NE	NE
Ammonium Sulfate	N2H8S04	7783-20-2	0-75	50ppm(asNH3)	25ppm (as NH3)
Potassium Sulfate	K2S04	7778-80-5	0-20	NE	NE
Super Phosphate	CaH4-208	7758-23-8	0-10	NE	NE
Corncobs(Pulverized)	--	NE	0-60	NE	NE
Calcium Lignosulfonate	--	68131-31-7	0-01	NE	NE
Conditioners, Impurities	--	NE	0-01	NE	NE
Sulfur Coated Urea	NA	NE	0-25	NE	NE
Urea Formaldehyde	NA	9011-05-6	0-25	NE	NE
Nutralene	NA	NE	0-25	NE	NE
Monoammonium Phosphate	NH4H2P04	7722-76-1	0-40	15mg/m3	15mg/m3
Potassium Nitrate	NA	7757-79-1	0-50	ND	ND
Sodium borate	--	11130124	--	10mg B203/m3	--
Copper Oxide	--	1317391	--	1mg Cu/m3	--
Copper Sulfate	--	7758998	--	1mg Cu/m3	--
Iron Oxide	--	1332372	--	5mg Fe/m3	--
Iron Sulfate	--	7720787	--	1mg Fe/m3	--
Manganese Oxide	--	1344430	--	1mg Mn/m3	--
Manganese Sulfate	--	7758877	--	1mg Mn/m3	--
Sodium Molybdate	--	7631950	--	5mg Mo/m3	--
Zinc Oxide	--	1314132	--	5mg Zn/m3	--
Zinc Sulfate	--	7733020	--	5mg Zn/m3	--

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