

NOTE: SEE LAST PAGE FOR CONDITIONS UNDER WHICH THE INFORMATION AND RECOMMENDATIONS OF THIS DATA IS FURNISHED

MATERIAL SAFETY DATA

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NA = Not Applicable

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SECTION 1 - IDENTIFICATION

Trade Name: **NS SERIES 1030**

Chemical Family: Bacterial/Enzyme Mixture Chemical Name: No IUC name for the mixture is known to exist

DOT HAZARD CLASS: NA

DOT LABEL(S): NA

CAS No. : See information listed below in Section II

DOT PROPER SHIPPING NAME: Chemicals Not Otherwise Indexed (NOI), **Non Hazardous**

SECTION II - INFORMATION ON COMPONENTS [hazardous & other]

INGREDIENT	CAS NO.	PERCENT	OCCUPATIONAL EXPOSURE LIMITS TLV (Units)	HAZARD
<i>Arthrobacter sp.</i> BACTERIAL COMPLEX AMYLASE and PROTEASE	9014-01-1	NA	.03 mcg/m ³	Sensitization/Irritation
See additional information in Section V as to calculation of TLV for finished product. Calculated TLV for based upon subtilisin content-- this product = 85.5 mcg/m³				
CALCIUM CARBONATE	471-34-	2.5%	PEL 15 mg/m ³ TLV 10 mg/m ³	Nuisance Particulate

Identity	OTHER INGREDIENTS	CAS No.	WT%
Bacteria Complex	-Amylase, Protease	[68920423]	@
Wheat Bran		None assigned	@
Lipase		[9001-62-1]	@
Aspergillus oryzae amylase		[9001-19-8]	@
Arthrobacter		None assigned	@

@= among 5 most predominant compounds NA = Not applicable

SECTION III-PHYSICAL DATA

STATE: Dry Powder

APPEARANCE.-Tan free flowing powder

ODOR- Characteristic

fermentation odor

BOILING PT: NA MELTING POINT NA VAPOR DENSITY: NA

EVAPORATION RATE (BUTYL ACETATE =1): NA SPECIFIC GRAVITY: NA

STORAGE CONDITIONS Store tightly closed in cool, dry place POUR PT:NA

SOLUBILITY IN WATER - NA (Aqueous solution) 100% Miscible %VOLATILES NA

SECTION IV- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT- Not Determined IGNITION TEMPERATURE *

FLAMMABLE LIMITS NA *Information not available

No special requirements: however, self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.

Extinguishing Media: no special requirements.

SECTION V -HEALTH HAZARD DATA

TLV AND SOURCE; TLV (ACOIM) = 0.06 mcg/cu meter or as above(as pure crystalline enzyme. 0.06 mcg/cu meter is for proteolytic enzymes as 100% pure crystalline Subtilisin) Calculated TLV = 21.3 mcg/cu meter as formulated based on following formula:

$$\text{TLV} = \frac{0.06 \times \text{Activity of pure crystalline enzyme}}{\text{Proteolytic activity of product}} = \frac{0.06 \times 57A}{.04A} = 21.3 \text{ mcg/m}^3$$

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE Individuals with known allergies, particularly to enzymes, as well as those individuals with chronic respiratory disease or particular susceptibility thereto and those with asthmatic conditions should avoid contact with dusty conditions.

PRIMARY ROUTES OF ENTRY Ingestion and Inhalation. No appreciable entry known through intact skin although irritation is possible, see above

ACUTE AFFECTS OF OVEREXPOSURE

SWALLOWING: Ingestion of this material is not known to result in significant adverse health effects. Can cause irritation to mouth and throat.

SKIN ABSORPTION: Skin absorption not known to occur.

INHALATION: Can cause allergic type response in susceptible individuals upon repeated or prolonged contact.

SKIN CONTACT: This material can cause minor irritation following prolonged direct contact

EYE CONTACT: Material can cause eye irritation upon direct contact.

CHRONIC EFFECTS OF OVEREXPOSURE: May cause allergic type sensitivity in susceptible individuals resulting in delayed hyperallergic response.

EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING: Rinse mouth with water if ingested

SKIN: Wash affected area with soap and remove contaminated clothing.

INHALATION: In case of inhalation, remove from area of exposure; if allergic symptoms occur in 0-48 hours, seek medical attention.

Supplementary information is attached concerning concentrated enzyme exposure.

WARNING STATEMENTS

CAUTION! MAY CAUSE SKIN OR EYE IRRITATION. STORE IN A COOL DRY PLACE. AVOID CONTACT WITH SKIN AND CLOTHING AND INHALATION OF AIRBOURNE PARTICLES. WASH HANDS, CLOTHING AND EQUIPMENT AFTER USE.

SECTION VI- REACTIVITY DATA

MATERIALS TO AVOID: None known

HAZARDOUS DECOMPOSITION PRODUCTS: None known

SECTION VII- SPILL, LEAK AND DISPOSAL INFORMATION

WASTE DISPOSAL-Dispose of this material and any absorbent material (see below) in closed containers in a sanitary chemical landfill which complies with all local, state and federal regulations.

SPILL OR LEAKAGE PROCEDURES: Dike and absorb spill with inert materials. Small quantities can be flushed thoroughly with water to appropriate chemical waste sewer(avoid high pressure washing).

SECTION VIII- SAFE HANDLING AND USE INFORMATION

Respiratory protection: Wear suitable NIOSH approved dust masks or respiratory protector where local ventilation exhaust is not available or situations where inhalation of mist is likely to result.

Ventilation: Local ventilation required to prevent ambient air entrapment of fugitive aerosol material.

Storage and Handling: Maintain good housekeeping, avoid creating aerosols. Keep out of direct sunlight and in cool dry place as deterioration of product and loss of activity may occur under above conditions.

Eye Protection: Protecting glasses or eye shield as necessary to prevent eye contact.

Skin Protection: Long sleeved shirt, trousers, safety shoes, and impermeable gloves or as necessary to prevent skin contact

Hygienic Practices: Wash hands after handling, as well as any other affected skin areas. Avoid contact with food or food preparatory surfaces. If this occurs wash the area thoroughly with suitable detergent and water. Remove and wash contaminated clothing.

OTHER PROTECTIVE EQUIPMENT: Eye wash facility, whatever equipment sufficient to prevent skin contact and splash protection.

Keep out of Reach of Children

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