

MATERIAL SAFETY DATASHEET

1: CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: 142001

NAME: LYOPHILIZED TUBULIN

USE: RESEARCH USE ONLY

SUPPLIER:

PURSOLUTIONS, LLC
1203 RIVER VISTA AVE
CHARLOTTESVILLE, VA 22901
UNITED STATES OF AMERICA
PHONE: 540-560-3411

2: COMPOSITION/INFORMATION ON INGREDIENTS

MONOSODIUM PHOSPHATE

CAS#: 7558-80-7 <1%
EINECS#: 231-449-2

DISODIUM PHOSPHATE

CAS#: 7558-79-4 <1%
EINECS#: 231-448-7

MAGNESIUM CHLORIDE

CAS#: 7791-18-6 <1%
EINECS#: UNLISTED

GTP

(GUANOSINE 5'-TRIPHOSPHATE SODIUM SALT HYDRATE)

CAS#: 36051-31-7 <1%
EINECS#: 252-847-2

TREHALOSE

CAS#: 6138-23-4 65%
EINECS#: UNLISTED

BOVINE PROTEIN

CAS#: NONE 35%
EINECS#: NONE

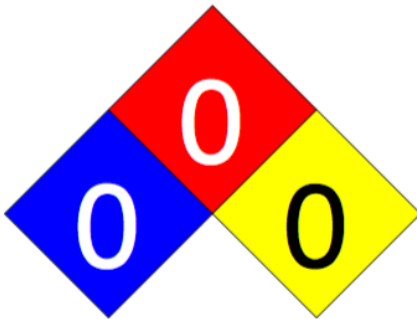
3: HAZARDS IDENTIFICATION

- THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO THE GHS (GLOBALLY HARMONIZED SYSTEM).

- THIS PRODUCT IS NOT CONSIDERED HAZARDOUS BY THE OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).
- THIS PRODUCT IS NOT CLASSIFIED AS HAZARDOUS ACCORDING TO DIRECTIVE 67/548/EC.
- NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
- NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS. HANDLING AND/OR PROCESSING OF THIS MATERIAL MAY GENERATE A DUST, WHICH CAN CAUSE MECHANICAL IRRITATION OF THE EYES, SKIN, NOSE AND THROAT. AVOID PROLONGED CONTACT WITH EYES, SKIN AND CLOTHING.

NFPA (NATIONAL FIRE PROTECTION AGENCY) RATINGS (SCALE 0-4)

FIRE = 0 HEALTH = 0 REACTIVITY = 0



HMIS (HAZARDOUS MATERIALS IDENTIFICATION SYSTEM) RATINGS (SCALE 0-4)

HEALTH = 0 FIRE = 0 REACTIVITY = 0

HEALTH	0
FIRE	0
REACTIVITY	0

4: FIRST-AID MEASURES

GENERAL INFORMATION: NO SPECIAL MEASURES REQUIRED

INHALATION: SUPPLY FRESH AIR. CONSULT PHYSICIAN.

AFTER SKIN CONTACT: IMMEDIATELY WASH SKIN WITH SOAP AND RINSE WITH COPIOUS AMOUNTS OF WATER.

AFTER EYE CONTACT: RINSE OPENED EYE FOR AT SEVERAL MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN.

AFTER SWALLOWING: RINSE MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CONSULT PHYSICIAN.

5: FIREFIGHTING MEASURES

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING AGENTS: CARBON DIOXIDE, EXTINGUISHING POWDER OR WATER SPRAY.

PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE. PREVENT CONTACT WITH SKIN AND EYES.

6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES.

ENVIRONMENTAL PRECAUTIONS: DILUTE WITH PLENTY OF WATER. DO NOT ALLOW TO ENTER SEWERS/SURFACE OR GROUND WATER.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP: ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). DISPOSE CONTAMINATED MATERIAL AS WASTE ACCORDING TO SECTION 13. ENSURE ADEQUATE VENTILATION.

REFERENCE TO OTHER SECTIONS: SEE SECTION 7 FOR INFORMATION ON SAFE HANDLING. SEE SECTION 8 FOR INFORMATION ON PERSONAL PROTECTION EQUIPMENT. SEE SECTION 13 FOR DISPOSAL INFORMATION.

7: HANDLING AND STORAGE

HANDLING

PRECAUTIONS FOR SAFE HANDLING: ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE. WEAR APPROPRIATE PROTECTIVE CLOTHING (SEE SECTION 8). DO NOT RE-USE CONTAINER.

INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES: NOT IGNITABLE.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES STORAGE REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES: STORE AT -80°C. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS: KEEP RECEPTACLE TIGHTLY SEALED.

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

GENERAL PROTECTIVE AND HYGIENIC MEASURES:

KEEP AWAY FROM FOODSTUFFS, BEVERAGES AND FEED. WASH HANDS BEFORE BREAKS AND AT THE END OF WORK. IMMEDIATELY REMOVE ALL SOILED AND CONTAMINATED CLOTHING. AVOID CONTACT WITH THE EYES AND SKIN.

BREATHING EQUIPMENT:

SHORT TERM FILTER DEVICE: FILTER P2.

DO NOT BREATHE. USE MECHANICAL EXHAUST SYSTEM.

PROTECTIVE GLOVES:

THE GLOVE MATERIAL HAS TO BE IMPERMEABLE AND RESISTANT TO THE PRODUCT/SUBSTANCE/PREPARATION. AS THE PRODUCT IS A PREPARATION OF SEVERAL SUBSTANCES, THE RESISTANCE OF THE GLOVE MATERIAL CANNOT BE CALCULATED IN ADVANCE AND THEREFORE HAS TO BE CHECKED PRIOR TO APPLICATION. NO RECOMMENDATION CAN BE GIVEN FOR THE GLOVE MATERIAL FOR THIS PRODUCT. SELECT GLOVE MATERIALS BASE ON PENETRATION TIMES, RATES OF DIFFUSION AND DEGRADATION OF MATERIAL.

MATERIAL OF GLOVES:

THE SELECTION OF SUITABLE GLOVES DEPENDS NOT ONLY ON THE MATERIAL, BUT ON QUALITY OF MATERIAL AND VARIES FROM MANUFACTURER TO MANUFACTURER.

PENETRATION TIME OF GLOVE MATERIAL:

THE EXACT BREAK THROUGH TIME HAS TO BE FOUND OUT BY THE MANUFACTURER OF THE PROTECTIVE GLOVES AND HAS TO BE OBSERVED.

FOR THE PERMANENT CONTACT OF A MAXIMUM OF 15 MINUTES, GLOVES MADE OF THE FOLLOWING MATERIALS ARE SUITABLE: NEOPRENE GLOVES.

EYE PROTECTION: TIGHTLY SEALED GOGGLES.

BODY PROTECTION: PROTECTIVE WORK CLOTHING.

9: PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

FORM: SOLID (LYOPHILIZED POWDER).

MELTING POINT/MELTING RANGE: UNDETERMINED.

BOILING POINT/BOILING RANGE: UNDETERMINED.

FLASH POINT: NOT APPLICABLE.

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING.

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.

DENSITY: NOT DETERMINED.

SOLUBILITY IN/MISCIBILITY WITH WATER: SOLUBLE.

10: STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY: STABLE BETWEEN -70°C AND 37°C.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS.

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN.

HAZARDOUS DECOMPOSITION PRODUCTS: NO DANGEROUS PRODUCTS KNOWN.

11: TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

TO THE BEST OF OUR KNOWLEDGE, THE TOXICOLOGICAL PROPERTIES OF THIS PRODUCT HAVE NOT BEEN THOROUGHLY INVESTIGATED. NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

ON THE SKIN: MAY CAUSE SKIN IRRITATION.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

ON THE EYE: MAY CAUSE EYE IRRITATION.

INHALATION: MAY IRRITATE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. MAY BE HARMFUL IF INHALED.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

CARCINOGENIC CATEGORIES

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC): NONE LISTED.

NATIONAL TOXICOLOGY PROGRAM (NTP): NONE LISTED.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA-CA): NONE LISTED.

12: ECOLOGICAL INFORMATION

NO DATA AVAILABLE.

13: DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISPOSAL OF THIS PRODUCT, SOLUTIONS AND ANY BY- PRODUCTS SHOULD AT ALL TIMES COMPLY WITH THE REQUIREMENTS OF ENVIRONMENTAL PROTECTION AND WASTE DISPOSAL LEGISLATION AND ANY REGIONAL LOCAL AUTHORITY REQUIREMENTS. AVOID DISPERSAL OF SPILLED MAERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

WITHIN THE PRESENT KNOWLEDGE OF THE SUPPLIER, THIS PRODUCT IS NOT REGARDED AS HAZARDOUS WASTE, AS DEFINED BY EU DIRECTIVE 91/689/EC.

14: TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION) CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR (INTERNATIONAL AIR TRANSPORT ASSOCIATION) CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

15: REGULATORY INFORMATION

UNITED STATES REGULATORY INFORMATION

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA)

SECTION 302/304 (40CFR355.30/40CFR355.40): NONE OF THE INGREDIENTS IS LISTED.

SECTION 313 (SPECIFIC TOXIC CHEMICAL LISTINGS): NONE OF THE INGREDIENTS IS LISTED.

SECTION 355 (EXTREMELY HAZARDOUS SUBSTANCES): NONE OF THE INGREDIENTS IS LISTED.

PROPOSITION 65

CHEMICALS KNOWN TO CAUSE CANCER: NONE OF THE INGREDIENTS IS LISTED.

CHEMICALS KNOWN TO CAUSE REPRODUCTIVE TOXICITY FOR FEMALES: NONE OF THE INGREDIENTS IS LISTED.

CHEMICALS KNOWN TO CAUSE REPRODUCTIVE TOXICITY FOR MALES: NONE OF THE INGREDIENTS IS LISTED.

CHEMICALS KNOWN TO CAUSE DEVELOPMENTAL TOXICITY: NONE OF THE INGREDIENTS IS LISTED.

CARCINOGENIC CATEGORIES

EPA (ENVIRONMENTAL PROTECTION AGENCY): NONE OF THE INGREDIENTS IS LISTED.

TLV (THRESHOLD LIMIT VALUE): NONE OF THE INGREDIENTS IS LISTED.

NIOSH-CA (NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH): NONE OF THE INGREDIENTS IS LISTED.

CANADA REGULATORY INFORMATION

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

EU REGULATORY INFORMATION

THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO EU LEGISLATION.

16: OTHER INFORMATION

THIS INFORMATION IS BASED ON OUR PRESENT KNOWLEDGE. HOWEVER, THIS SHALL NOT CONSTITUTE A GUARANTEE FOR ANY SPECIFIC PRODUCT FEATURES AND SHALL NOT ESTABLISH A LEGALLY VALID CONTRACTUAL RELATIONSHIP. THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT, BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. PURSOLUTIONS, LLC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM CONTACT WITH THE ABOVE PRODUCT.

DATE OF PREPATION/REVISION: 07/13/16