MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: TL590M

NAME: TUBULIN PROTEINS DERIVED FROM PORCINE BRAIN LABELED WITH TETRAMETHYLRHODAMINE-5 (AND 6) ISOTHIOCYANATE (TRITC)

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:
CYTOSKELETON INC.
1830 S. Acoma St.
Denver, CO 80223
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24H EMERGENCY TOLL-FREE NUMBER: CALL INFOTRAC DAY OR NIGHT WITHIN USA AND CANADA: 1-800-535-5053 OUTSIDE USA AND CANADA: +1 352-323-3500 (COLLECT CALLS ACCEPTED)

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

OSHA HAZARDS
THIS PRODUCT IS NOT CONSIDERED HAZARDOUS

GHS CLASSIFICATION
THIS PRODUCT IS NOT CONSIDERED HAZARDOUS

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM NONE
SIGNAL WORD NONE

HAZARD STATEMENTS
NONE

PRECAUTIONARY STATEMENTS
NONE

POTENTIAL HEALTH EFFECTS

INHALATION MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY IRRITATION.
SKIN MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION.
EYES MAY CAUSE EYE IRRITATION.
INGESTION MAY BE HARMFUL IF SWALLOWED.

NFPA RATINGS (SCALE 0-4)
FIRE = 0
HEALTH = 2*
REACTIVITY = 0

HMIS RATINGS
HEALTH = 2*
FIRE = 0
REACTIVITY = 0

*AT CONCENTRATIONS ABOVE 1% TRITC-RHODAMINE. THIS PRODUCT HAS <1% TRITC RHODAMINE.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

PIPES (PIPERAZINE-N, N-BIS(2-ETHANESULFONIC ACID), SESQUISODIUM SALT) CAS#: 100037-69-2 EINECS#: UNLISTED <1%

FICOLL (SUCROSE, EPICHLOROHYDRIN COPOLYMER) CAS#: 26873-85-8 EINECS#: UNLISTED <1%

SUCROSE CAS#: 57-50-1 EINECS#: 200-334-9 <1%

GLYCEROL CAS#: 56-81-5 EINECS#: 200-289-5 <1%

ANTIFOAM C CAS#: UNLISTED EINECS#: UNLISTED <0.1%

DTT (DITHIOTHREITOL) CAS#: 3483-12-3 EINECS#: 222-468-7 <1%

GTP (GUANOSINE 5'-TRIPHOSPHATE SODIUM SALT HYDRATE) CAS#: 36051-31-7 EINECS#: 252-847-2 <1%

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

EGTA (ETHYLENE GLYCOL-BIS(2-AMINOETHYLETHER)-N,N,N',N'-TETRAACETIC ACID 9-(2-CARBOXYISOTHIOCYANATOPHENYL)-3,6- BIS(DIMETHYLAMINO) XANTHYLIUM INNER SALTS) CAS#: 67-42-5 EINECS#: 200-651-2 <1%

CAS#: 95197-95-8 EINECS#: NONE <1%
SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN
AFTER SKIN CONTACT: IMMEDIATELY WASH SKIN WITH SOAP AND RINSE WITH COPIOUS AMOUNTS OF WATER. CONSULT PHYSICIAN
AFTER EYE CONTACT: CHECK FOR AND REMOVE ANY CONTACT LENSES. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. THEN CONSULT PHYSICIAN
AFTER SWALLOWING: WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL FOR PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. FIREFIGHTING MEASURES

FINE DUST CLOUDS MAY FORM EXPLOSIVE MIXTURES WITH AIR

EXTINGUISHING MEDIA
SUITABLE EXTINGUISHING AGENTS: USE DRY CHEMICAL POWDER. DO NOT USE WATER SPRAY
ADVICE FOR FIREFIGHTERS
PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE PREVENT CONTACT WITH SKIN, FACE AND EYES

SECTION 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 8 FOR INFORMATION ON PERSONAL PROTECTION EQUIPMENT. SEE SECTION 13 FOR DISPOSAL INFORMATION.

SECTION 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. DO NOT
EAT, DRINK OR SMOKE IN AREAS WHERE THIS PRODUCT IS HANDLED, STORED OR PROCESSED. WASH HANDS AFTER WORKING WITH MATERIAL.

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** STORE IN CONTAINER PROTECTED FROM DIRECT SUNLIGHT IN A DRY, COOL, WELL-VENTILATED PLACE. STORE AT -70 DEGREES C OR 4 DEGREES C WITH DESICCANT. ELIMINATE ALL IGNITION SOURCES AND SEPARATE FROM OXIDIZING MATERIALS. KEEP CONTAINERS CLOSED AND SEALED.

**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**

**STORAGE REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES:** STORE AT 2-8°C WITH DESICCANT (OR -70 DEGREES C). KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. STORE DESICCATED.

**FURTHER INFORMATION ABOUT STORAGE CONDITIONS:** KEEP RECEPTACLE TIGHTLY SEALED.

**SECTION 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

**PROTECTION OF HANDS**

**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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES
GENERAL INFORMATION
FORM: SOLID (LYOPHILIZED POWDER)
COLOR: RED/PINK
CHANGE IN CONDITION
MELTING POINT/MELTING RANGE: N/A
BOILING POINT/BOILING RANGE: N/A
FLASH POINT: N/A.
SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING
DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.
DENSITY: NOT DETERMINED
SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY
CHEMICAL STABILITY: THE PRODUCT IS STABLE.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: AVOID CREATION OF DUST WHEN HANDLING AND AVOID ALL POSSIBLE SOURCES OF IGNITION. PREVENT DUST ACCUMULATION. REACTIVE OR INCOMPATIBLE WITH OXIDIZING MATERIALS.

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: NO DANGEROUS PRODUCTS KNOWN

SECTION 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.

INHALATION SLIGHTLY IRRITATING TO THE RESPIRATORY SYSTEM. MAY CAUSE SENSITIZATION BY INHALATION. EXPOSURE TO DECOMPOSITION PRODUCTS MAY CAUSE A HEALTH HAZARD.

INGESTION NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS

SKIN SLIGHTLY IRRITATING TO THE SKIN

EYES SLIGHTLY IRRITATING TO THE EYES
SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE. NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

SECTION 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 DISPERSEL OF SPIILLED MATERIAL 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.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT. NOT REGULATED

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT. NOT REGULATED

SECTION 15. REGULATORY INFORMATION

UNITED STATES REGULATORY INFORMATION

HCS CLASSIFICATION: SENSITIZING MATERIAL

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 302/204 (40CFR355.30/40CFR355.40):
NONE OF THE INGREDIENTS IS LISTED.

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 302/304/311/312:
NO PRODUCTS WERE LISTED

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 313:
THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

CANADA REGULATORY INFORMATION
WHMIS CLASSIFICATION: CLASS D-2B: MATERIAL CAUSING OTHER TOXIC EFFECTS (TOXIC).

EU REGULATORY INFORMATION
THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO EU LEGISLATION.

SECTION 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. CYTOSKELETON INC. SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM CONTACT WITH THE ABOVE PRODUCT.

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