

Cytoskeleton, Inc.

MSDS COVERSHEET

CATALOG # BK052

GTPase ELIPA BIOCHEM KIT

PART/CATALOG #

DESCRIPTION

EREC	ELIPA Reaction Buffer
ELP01	ELIPA Reagent 1
ELP03	ELIPA Reagent 2
PI05	Phosphate Standard
ERSP	ELIPA Reagent 1 Resuspension Buffer
BSA04	ATP Stock
BST06	GTP Stock

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: EREC

NAME: ELIPA REACTION BUFFER

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.

1830 S. Acoma St.

Denver, CO 80223

PHONE: 303-322-2254

FAX: 303-322-2257

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

NFPA RATINGS (SCALE 0-4)

FIRE = 0

HEALTH = 0

REACTIVITY = 0

HMIS RATINGS

HEALTH = 0

FIRE = 0
REACTIVITY = 0

POTENTIAL HEALTH EFFECTS

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

PIPES (PIPERAZINE-N, N-BIS(2-ETHANESULFONIC ACID), SESQUISODIUM SALT	CAS#: 100037-69-2 <1% EINECS#: UNLISTED
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MAGNESIUM CHLORIDE	CAS#: 7791-18-6 <1% EINECS#: UNLISTED
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SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. CONSULT PHYSICIAN IN CASE OF COMPLAINTS

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

AFTER EYE CONTACT: 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

EXTINGUISHING MEDIA

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

ADVICE FOR FIREFIGHTERS

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

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 2-8°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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL LIMIT VALUES

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: LIQUID

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

STABLE WHEN STORED AS DIRECTED.

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

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.

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

NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC, ACGIH, NTP OR OSHA

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IMDG CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

NO KNOWN OSHA HAZARDS

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.

**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.

SARA 311/312 HAZARDS
NO SARA HAZARDS

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

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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MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: ELP01

NAME: ELIPA REAGENT 1

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.
1830 S. Acoma St.
Denver, CO 80223
PHONE: 303-322-2254
FAX: 303-322-2257

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

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH = 0
REACTIVITY = 0

HMIS RATINGS

HEALTH = 0
FIRE = 0
REACTIVITY = 0

POTENTIAL HEALTH EFFECTS

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

2-AMINO-6-MERCAPTO-7-METHYLPURINE RIBOSIDE, INNER SALT (MESG)	CAS#: UNLISTED EINECS#: UNLISTED
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SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN IN CASE OF COMPLAINTS
AFTER SKIN CONTACT: IMMEDIATELY WASH SKIN WITH SOAP AND RINSE WITH COPIOUS AMOUNTS OF WATER
AFTER EYE CONTACT: 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

CONDITIONS OF FLAMMABILITY: NOT FLAMMABLE OR COMBUSTIBLE
EXTINGUISHING MEDIA
SUITABLE EXTINGUISHING AGENTS: CARBON DIOXIDE, EXTINGUISHING POWDER OR WATER SPRAY.
ADVICE FOR FIREFIGHTERS
PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE
PREVENT CONTACT WITH SKIN AND EYES
HAZARDOUS COMBUSTION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN UNDER FIRE CONDITIONS

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST, OR GAS.
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). FOR LYOPHILIZED POWDER, SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL. 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.

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 2-8°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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL LIMIT VALUES

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

RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION FROM NUISANCE LEVELS OF DUST ARE DESIRED, USE TYPE N95 (US) OR TYPE P1 (EN143) DUST MASKS.

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: LYOPHILIZED POWDER

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE WHEN STORED AS DIRECTED.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS. AVOID STRONG OXIDIZING AGENTS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS IS NOT 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.

POTENTIAL HEALTH EFFECTS

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

NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC, ACGIH, NTP OR OSHA

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IMDG CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

NO KNOWN OSHA HAZARDS

UNITED STATES REGULATORY INFORMATION

**SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA)
SECTION 302/304 (40CFR355.30/40CFR355.40):**

NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302/204.

**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.

SARA 311/312 HAZARDS

NO SARA HAZARDS

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

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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MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: ELP03

NAME: ELIPA REAGENT 2 (PURINE NUCLEOSIDE PHOSPHORYLASE)

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.
1830 S. Acoma St.
Denver, CO 80223
PHONE: 303-322-2254
FAX: 303-322-2257

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

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH = 0
REACTIVITY = 0

HMIS RATINGS

HEALTH = 0
FIRE = 0
REACTIVITY = 0

POTENTIAL HEALTH EFFECTS

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

PIPES (PIPERAZINE-N, N-BIS(2-ETHANESULFONIC ACID), SESQUISODIUM SALT	CAS#: 100037-69-2 <1% EINECS#: UNLISTED
EDTA (ETHYLENEDIAMINETETRAACETIC ACID)	CAS#: 60-00-4 <1% EINECS#:200-449-4
SUCROSE	CAS#: 57-50-1 5% EINECS#: 200-334-9
SODIUM CHLORIDE	CAS#: 7647-14-5 <1% EINECS#: 231-598-3
PURINE NUCLEOSIDE PHOSPHORYLASE	CAS#: 9030-21-1 >90% EINECS#: 232-857-3

SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN IN CASE OF COMPLAINTS

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

AFTER EYE CONTACT: 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

CONDITIONS OF FLAMMABILITY: NOT FLAMMABLE OR COMBUSTIBLE

EXTINGUISHING MEDIA

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

ADVICE FOR FIREFIGHTERS

PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE

PREVENT CONTACT WITH SKIN AND EYES

HAZARDOUS COMBUSTION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN UNDER FIRE CONDITIONS

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST, OR GAS.

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). FOR LYOPHILIZED POWDER, SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL. 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.

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 2-8°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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL LIMIT VALUES

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

RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION FROM NUISANCE LEVELS OF DUST ARE DESIRED, USE TYPE N95 (US) OR TYPE P1 (EN143) DUST MASKS.

**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: LYOPHILIZED POWDER

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE WHEN STORED AS DIRECTED.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS. AVOID STRONG OXIDIZING AGENTS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS IS NOT 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.

POTENTIAL HEALTH EFFECTS

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

NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC, ACGIH, NTP OR OSHA

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IMDG CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

NO KNOWN OSHA HAZARDS

UNITED STATES REGULATORY INFORMATION

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 302/304 (40CFR355.30/40CFR355.40):

NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302/204.

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.

SARA 311/312 HAZARDS

NO SARA HAZARDS

PA AND NJ RIGHT TO KNOW COMPONENTS

PHOSPHORYLASE, PURINE NUCLEOSIDE CAS#: 9030-21-1

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

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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MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: PI05

NAME: PHOSPHATE STANDARD

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.

1830 S. Acoma St.

Denver, CO 80223

PHONE: 303-322-2254

FAX: 303-322-2257

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:

NO KNOWN OSHA HAZARDS

GHS CLASSIFICATION:

ACUTE TOXICITY, DERMAL (CATEGORY 5)

PICTOGRAM: NONE

SIGNAL WORD: DANGER

HAZARD STATEMENTS:

H313 MAY BE HARMFUL IN CONTACT WITH SKIN

PRECAUTIONARY STATEMENTS:

NONE

THIS PRODUCT IS NOT CONSIDERED HAZARDOUS BY THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

THIS PRODUCT IS NOT CLASSIFIED AS HAZARDOUS ACCORDING TO DIRECTIVE 67/548/EC.

POTENTIAL HEALTH EFFECTS

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

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH = 0
REACTIVITY = 0

HMIS RATINGS

HEALTH = 0
FIRE = 0
REACTIVITY = 0

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

POTASSIUM PHOSPHATE MONOBASIC	CAS#: 7778-77-0 EINECS#: 231-913-4
POTASSIUM PHOSPHATE DIBASIC	CAS#: 7758-11-4 EINECS#: 231-834-5

SECTION 4. FIRST-AID MEASURES

REMOVE CLOTHING CONTAMINATED BY PRODUCT AND WASH CONTAMINATED CLOTHING BEFORE REUSE.

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. 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 LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN

AFTER SWALLOWING: WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. DRINK COPIOUS AMOUNTS OF WATER. CONSULT PHYSICIAN

SECTION 5. FIREFIGHTING MEASURES

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING AGENTS: CARBON DIOXIDE, EXTINGUISHING POWDER OR WATER SPRAY. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT FOAM

ADVICE FOR FIREFIGHTERS

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

HAZARDOUS COMBUSTION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - OXIDES OF PHOSPHORUS, POTASSIUM OXIDES

FURTHER INFORMATION: THE PRODUCT ITSELF DOES NOT BURN

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES. DO NOT INHALE DUST, MIST OR VAPOR.

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. DO NOT INHALE DUST, MIST OR VAPOR. WEAR APPROPRIATE PROTECTIVE CLOTHING (SEE SECTION 8). DO NOT RE-USE CONTAINER.

INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES: KEEP AWAY FROM HEAT, SOURCES OF IGNITION AND INCOMPATIBLES SUCH AS OXIDIZING AGENTS.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

STORAGE

REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES: STORE AT 2-8°C. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. STORE DESICCATED.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS: KEEP RECEPTACLE TIGHTLY SEALED IN A WELL-VENTILATED AREA.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

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: LIQUID

COLOR: COLORLESS

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: NOT DETERMINED

BOILING POINT/BOILING RANGE: NOT DETERMINED

FLASH POINT: NOT DETERMINED

FLAMMABILITY: NOT DETERMINED

SELF-IGNITING: NOT DETERMINED

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.

DENSITY AT 20°C: NOT DETERMINED

UPPER AND LOWER EXPLOSION LIMITS: NOT DETERMINED

VAPOR PRESSURE: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: NOT DETERMINED

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE WHEN STORED AS RECOMMENDED.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS. AVOID STRONG OXIDIZING AGENTS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - OXIDES OF PHOSPHORUS, POTASSIUM OXIDES

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.

POTENTIAL HEALTH EFFECTS

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

NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE, OR CONFIRMED HUMAN CARCINOGEN BY IARC, ACGIH, NTP, OR OSHA.

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS.

IMDG CLASSIFICATION:

THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS.

IATA CLASSIFICATION:

THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS:

NO KNOWN OSHA HAZARDS

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.

**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.

SARA 311/312 HAZARDS

NO SARA HAZARDS

MA RIGHT TO KNOW COMPONENTS

NONE

PA AND NJ RIGHT TO KNOW COMPONENTS

POTASSIUM DIHYDROGENORTHOPHOSPHATE CAS#: 7778-77-0
DIPOTASSIUM HYDROGENORTHOPHOSPHATE CAS#: 7758-11-4

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

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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MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: ERSP

NAME: ELIPA REAGENT 1 RESUSPENSION BUFFER

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.
1830 S. Acoma St.
Denver, CO 80223
PHONE: 303-322-2254
FAX: 303-322-2257

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

ACETIC ACID IS A HAZARDOUS SUBSTANCE, BUT BECAUSE IT IS PRESENT AT <0.1%, THIS PRODUCT IS NOT CONSIDERED HAZARDOUS

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

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH = 0

REACTIVITY = 0

HMIS RATINGS

HEALTH = 0

FIRE = 0

REACTIVITY = 0

POTENTIAL HEALTH EFFECTS

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

ACETIC ACID	CAS#: 64-19-7	<0.1%
	EINECS#: 200-580-7	

SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN IN CASE OF COMPLAINTS

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

AFTER EYE CONTACT: 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

CONDITIONS OF FLAMMABILITY: NOT FLAMMABLE OR COMBUSTIBLE

EXTINGUISHING MEDIA

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

ADVICE FOR FIREFIGHTERS

PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE

PREVENT CONTACT WITH SKIN AND EYES

HAZARDOUS COMBUSTION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN UNDER FIRE CONDITIONS

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY

GOGGLES, GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST, OR GAS.

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). FOR LYOPHILIZED POWDER, SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL. 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.

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 2-8°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

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

<u>COMPONENT</u>	<u>CAS#</u>	<u>VALUE</u>	<u>CONTROL PARAMETER</u>	<u>BASIS</u>
ACETIC ACID	64-19-7	TWA	10 ppm	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
REMARKS	EYE AND UPPER RESPIRATORY TRACT IRRITATION PULMONARY FUNCTION	STEL	15 ppm	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
	EYE AND UPPER RESPIRATORY TRACT IRRITATION PULMONARY FUNCTION	TWA	10 ppm 25 mg/m ³	USA. OSHA - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS - 1910.1000
		TWA	10 ppm 25 mg/m ³	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) TABLE Z-1 LIMITS FOR AIR CONTAMINANTS
	THE VALUE IN mg/m ³ IS APPROXIMATE	TWA	10 ppm 25 mg/m ³	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
		ST	15 ppm	USA. NIOSH

37 mg/m³

RECOMMENDED EXPOSURE
LIMITS

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

RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION FROM NUISANCE LEVELS OF DUST ARE DESIRED, USE TYPE N95 (US) OR TYPE P1 (EN143) DUST MASKS.

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: LIQUID

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE
DENSITY: NO DATA AVAILABLE
SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE WHEN STORED AS DIRECTED.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS. AVOID HEAT, FLAMES, AND SPARKS.

MATERIALS TO AVOID: OXIDIZING AGENTS, SOLUBLE CARBONATES AND PHOSPHATES, HYDROXIDES, METALS, PEROXIDES, PERMANGANATES, AMINES, ALCOHOLS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - CARBON OXIDES

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.

POTENTIAL HEALTH EFFECTS

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

NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC, ACGIH, NTP OR OSHA

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IMDG CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

NO KNOWN OSHA HAZARDS

UNITED STATES REGULATORY INFORMATION

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 302/304 (40CFR355.30/40CFR355.40):

NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302/204.

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.

SARA 311/312 HAZARDS

NO SARA HAZARDS

PA AND NJ RIGHT TO KNOW COMPONENTS

ACETIC ACID CAS#: 64-19-7

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

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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MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSA04

NAME: ADENOSINE 5'-TRIPHOSPHATE DISODIUM SALT (ATP)

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.
1830 S. Acoma St.
Denver, CO 80223
PHONE: 303-322-2254
FAX: 303-322-2257

EMERGENCY CONTACT:

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

TOXIC BY INGESTION, IRRITANT

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH = 2
REACTIVITY = 0

HMIS RATINGS

HEALTH = 2
FIRE = 0
REACTIVITY = 0

GHS CLASSIFICATION:

SIGNAL WORD:

DANGER

HAZARD PICTOGRAMS:



ACUTE TOXICITY, CATEGORY 4

SERIOUS EYE DAMAGE, CATEGORY 1
CHRONIC AQUATIC TOXICITY, CATEGORY 3

HEALTH HAZARD STATEMENTS:

H302: HARMFUL IF SWALLOWED
H315: CAUSES SKIN IRRITATION
H318: CAUSES SERIOUS EYE DAMAGE
H319: CAUSES SERIOUS EYE IRRITATION
H335: MAY CAUSE RESPIRATORY IRRITATION
H412: HARMFUL TO AQUATIC LIFE WITH LONG-LASTING EFFECTS

PRECAUTIONARY STATEMENTS:

P261: AVOID BREATHING DUST/FUMES/GAS/MIST/VAPORS/SPRAY
P264: WASH SKIN THOROUGHLY AFTER HANDLING
P270: DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT
P280: WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION
P301 + P312: IF SWALLOWED, CALL A POISON CENTER OR PHYSICIAN IF YOU FEEL UNWELL.
P305+P351+P338: IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES IF PRESENT AND EASY TO DO. CONTINUE RINSING.

POTENTIAL HEALTH EFFECTS

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPRISED OF:

DIGUANIDINIUM CARBONATE	CAS#: 593-85-1 EINECS#: 209-813-7
ADENOSINE 5'-TRIPHOSPHATE DISODIUM SALT (ATP)	CAS#: 42373-41-1 EINECS#: UNLISTED

SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN.
AFTER SKIN CONTACT: IMMEDIATELY WASH SKIN WITH SOAP AND RINSE WITH COPIOUS AMOUNTS OF WATER. CONSULT PHYSICIAN.
AFTER EYE CONTACT: RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN.

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

WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: NO DATA AVAILABLE

IGNITION TEMPERATURE: NO DATA AVAILABLE

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING AGENTS: CARBON DIOXIDE, EXTINGUISHING POWDER, ALCOHOL-RESISTENT FOAM OR WATER SPRAY.

ADVICE FOR FIREFIGHTERS

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST OR GAS.

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: IN LYOPHILIZED FORM, PICK UP WITHOUT GENERATING DUST. IN RECONSTITUTED FORM, 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. AVOID FORMATION OF DUST AND AEROSOLS. WEAR APPROPRIATE PROTECTIVE CLOTHING (SEE SECTION 8). DO NOT RE-USE CONTAINER.

INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES: NO DATA AVAILABLE

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES
STORAGE

REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES: STORE AT 2-8°C IN LYOPHILIZED FORM. 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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

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: USE TYPE N95 OR TYPE P1 DUST MASKS
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)

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

SELF-IGNITING: NO DATA AVAILABLE
DANGER OF EXPLOSION: NO DATA AVAILABLE
DENSITY: NO DATA AVAILABLE
SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: STRONG OXIDIZING AGENTS AND STRONG ACIDS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: NITROGEN OXIDES, CARBON OXIDES

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL AND TOXICOLOGICAL PROPERTIES OF THIS PRODUCT HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ACUTE TOXICITY

LD50 ORAL –MOUSE- 350 mg/kg

IRRITATION AND CORROSION

EYES –RABBIT- MODERATE EYE IRRITATION -24 h

SENSITIZATION

NO DATA AVAILABLE

NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC, ACGIH, NTP OR OSHA

POTENTIAL HEALTH EFFECTS

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

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IMDG CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

TOXIC BY INGESTION, IRRITANT

DSL STATUS

ALL COMPONENTS OF THIS PRODUCT ARE ON THE CANADIAN DSL LIST.

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.

**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.

SARA 311/312 HAZARDS

ACUTE HEALTH HAZARDS

PA AND NJ RIGHT TO KNOW COMPONENTS

DIGUANIDIUM CARBONATE

CAS #: 593-85-1

ADENOSINE 5'-TRIPHOSPHATE DISODIUM SALT

CAS#: 42373-41-1

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

CANADA REGULATORY INFORMATION

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

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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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BST06

NAME: GUANOSINE 5'-TRIPHOSPHATE SODIUM SALT (GTP)

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

CYTOSKELETON INC.
1830 S. Acoma St.
Denver, CO 80223
PHONE: 303-322-2254
FAX: 303-322-2257

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

TOXIC BY INGESTION, IRRITANT

THIS PRODUCT IS CONSIDERED HAZARDOUS BY THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

THIS PRODUCT IS CLASSIFIED AS HAZARDOUS ACCORDING TO DIRECTIVE 67/548/EC AND ASSOCIATED AMENDMENTS.

POTENTIAL HEALTH EFFECTS

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

NFPA RATINGS (SCALE 0-4)

FIRE = 1
HEALTH = 2
REACTIVITY = 0

HMIS RATINGS

HEALTH = 2

FIRE = 1

REACTIVITY = 0

GHS CLASSIFICATION:

SIGNAL WORD:

DANGER

HAZARD PICTOGRAMS:



ACUTE TOXICITY, CATEGORY 4

SERIOUS EYE DAMAGE, CATEGORY 1

CHRONIC AQUATIC TOXICITY, CATEGORY 3

SPECIFIC TARGET ORGAN TOXICITY -SINGLE EXPOSURE (CATEGORY 3)

SKIN IRRITATION (CATEGORY 2)

HEALTH HAZARD STATEMENTS:

H302:	HARMFUL IF SWALLOWED
H315:	CAUSES SKIN IRRITATION
H318:	CAUSES SERIOUS EYE DAMAGE
H319:	CAUSES SERIOUS EYE IRRITATION
H335:	MAY CAUSE RESPIRATORY IRRITATION
H412:	HARMFUL TO AQUATIC LIFE WITH LONG-LASTING EFFECTS

PRECAUTIONARY STATEMENTS:

P261:	AVOID BREATHING DUST/FUMES/GAS/MIST/VAPORS/SPRAY
P264:	WASH SKIN THOROUGHLY AFTER HANDLING
P270:	DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT
P271:	USE ONLY IN A WELL-VENTILATED AREA
P280:	WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION
P301 + P312:	IF SWALLOWED, CALL A POISON CENTER OR PHYSICIAN IF YOU FEEL UNWELL.
P302 + P352:	IF ON SKIN: WSH WITH PLENTY OF SOAP AND WATER.
P304 + P340:	IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING.
P305+P351+P338:	IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES IF PRESENT AND EASY TO DO. CONTINUE RINSING.
P332 + P313:	IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/ATTENTION.
P337 + P313:	IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.
P362:	TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
P403 + P233:	STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.

P405: STORE LOCKED UP.
P501: DISPOSE OF CONTENTS/CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

GUANOSINE 5'-TRIPHOSPHATE SODIUM SALT (GTP)	CAS#: 36051-31-7 EINECS#: 252-847-2	11%
GUANIDINE CARBONATE SALT	CAS#: 593-85-1 EINECS#: 209-813-7	9%
WATER	CAS#: 7732-18-5 EINECS#:231-791-2	80%

SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. CONSULT PHYSICIAN IN CASE OF COMPLAINTS. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN

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

AFTER EYE CONTACT: 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

EXTINGUISHING MEDIA

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

ADVICE FOR FIREFIGHTERS

PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE

PREVENT CONTACT WITH SKIN AND EYES

HAZARDOUS COMBUSTION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: CARBON OXIDES, NITROGEN OXIDES (NO_x), SULPHUR OXIDES, PHOSPHOROUS OXIDES, LITHIUM OXIDES

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES. AVOID DUST FORMATION.

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: UPON RECONSTITUTION, ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID

BINDERS, UNIVERSAL BINDERS, SAWDUST). DISPOSE CONTAMINATED MATERIAL AS WASTE ACCORDING TO SECTION 13. ENSURE ADEQUATE VENTILATION. IN LYOPHILIZED FORM, PICK UP WITHOUT CREATING DUST. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

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: AVOID FORMATION OF DUST AND AEROSOLS. AVOID CONTACT WITH SKIN AND EYES. 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 2-8°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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

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 AND FACE SHIELD

BODY PROTECTION: PROTECTIVE WORK CLOTHING

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

GENERAL INFORMATION

FORM: SOLID (LYOPHILIZED POWDER)

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

SELF-IGNITING: NO DATA AVAILABLE

DANGER OF EXPLOSION: NO DATA AVAILABLE.

DENSITY: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE WHEN STORED AS RECOMMENDED.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: STRONG OXIDIZING AGENTS, STRONG ACIDS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN

HAZARDOUS COMBUSTION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: CARBON OXIDES, NITROGEN OXIDES (NO_x), SULPHUR OXIDES, PHOSPHOROUS OXIDES, LITHIUM OXIDES

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY

LD50 ORAL -MOUSE- 350 mg/kg

IRRITATION AND CORROSION

EYES –RABBIT- MODERATE EYE IRRITATION – 24 H

SENSITIZATION

NO DATA AVAILABLE

CHRONIC EXPOSURE

IARC/ACGIH/NTP/OSHA: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN.

TO THE BEST OF OUR KNOWLEDGE, THE TOXICOLOGICAL PROPERTIES OF THIS PRODUCT HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ON THE SKIN: CAUSES SKIN IRRITATION

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN

ON THE EYE: CAUSES EYE IRRITATION

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

INGESTION: TOXIC IF SWALLOWED

SECTION 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

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 DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

THIS PRODUCT IS SUBJECT TO THE DE MINIMIS EXCEPTIONS FOR DANGEROUS GOODS/HAZARDOUS MATERIALS IN ACCORDANCE WITH THE FOLLOWING REGULATIONS: IATA 2.6.10, ADR 3.5.1.4, AND U.S. DOT 49 CFR 173.4b.

DOT CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA-DGR CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IMDG CLASSIFICATION: THIS PRODUCT IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

TOXIC BY INGESTION, IRRITANT

DSL STATUS

DIGUANIDINIUM CARBONATE IS ON THE CANADIAN DSL LIST.

TSCA:

CAS# 593-85-1 IS LISTED ON THE TSCA INVENTORY.

OSHA:

NONE OF THE CHEMICALS IN THIS PRODUCT ARE CONSIDERED HIGHLY HAZARDOUS BY OSHA

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.

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.

STATE RIGHT TO KNOW COMPONENTS

PA AND NJ

DIGUANIDINIUM CARBONATE CAS#: 593-85-1

CANADA REGULATORY INFORMATION

WHMIS CLASSIFICATION: THIS PRODUCT HAS A WHMIS CLASSIFICATION OF D2B.

WGK (WATER DANGER/PROTECTION)

CAS# 593-85-1:2

EU REGULATORY INFORMATION

SAFETY PHRASES:

S22: DO NOT BREATHE DUST

RISK PHRASES:

R22: HARMFUL IF SWALLOWED

R36/37/38: IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN

HAZARD SYMBOLS:

XI

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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