

Cytoskeleton, Inc.

MSDS COVERSHEET

CATALOG # BK013

**Actin Binding Protein Biochem Kit
(Non-muscle Actin)**

PART/CATALOG #	DESCRIPTION
APHL99-A	Non-muscle actin
AT01	Alpha-actinin
BSAB-200	BSA
BSA01-001	General actin buffer
BSA02-001	Actin polymerization buffer
BSA03-001	F-actin cushion buffer
BSA04-001	ATP stock
BSEG-01	EGTA solution
BSMG-01	MgCl ₂ solution
BSTR-01	100 mM Tris
BSTR-02	1 M Tris

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: APHL99

NAME: NON-MUSCLE ACTIN PROTEIN DERIVED FROM HUMAN PLATELETS

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 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

COMPRISED OF:

PROTEIN	CAS#: NONE	≥95%
	EINECS#: NONE	
SUCROSE	CAS#: 57-50-1	<1%
	EINECS#: 200-334-9	
TRIS BASE	CAS#: 77-86-1	<1%
	EINECS#: 201-064-4	
DEXTRAN	CAS#: 9004-54-0	<1%
	EINECS#: 232-677-5	
CALCIUM CHLORIDE	CAS#: 10035-04-8	<1%
	EINECS#: 233-140-8	
ADENOSINE 5'-TRIPHOSPHATE DISODIUM SALT (ATP)	CAS#: 42373-41-1	<1%
	EINECS#: UNLISTED	

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, 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: ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). IN LYOPHILIZED FORM, SWEEP UP WITHOUT CREATING DUST. 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 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: PRODUCT IS NOT EXPLOSIVE.

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

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: NO DATA AVAILABLE

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.

NO DATA AVAILABLE FOR ACUTE TOXICITY, SKIN CORROSION/IRRITATION, SERIOUS EYE DAMAGE/EYE IRRITATION, RESPIRATORY OR SKIN SENSITIZATION, GERM CELL MUTAGENICITY, SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE, SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE OR ASPIRATION HAZARD

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. 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.

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

DSL STATUS

THIS PRODUCT CONTAINS THE FOLLOWING COMPONENTS THAT ARE NOT ON THE CANADIAN DSL NOR NDSL LISTS

HUMAN PLATELET NON-MUSCLE ACTIN

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

PA AND NJ RIGHT TO KNOW COMPONENTS

HUMAN PLATELET NON-MUSCLE ACTIN

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.

COPYRIGHT 2018 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: AT01

NAME: ALPHA-ACTININ FROM RABBIT SKELETAL MUSCLE

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 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

COMPRISED OF:

PROTEIN	CAS#: NONE	≥95%
	EINECS#: NONE	
SUCROSE	CAS#: 57-50-1	1%
	EINECS#: 200-334-9	
TRIS BASE	CAS#: 77-86-1	<1%
	EINECS#: 201-064-4	
DEXTRAN	CAS#: 9004-54-0	<1%
	EINECS#: 232-677-5	
SODIUM CHLORIDE	CAS#: 7647-14-5	<1%
	EINECS#: 231-598-3	
EDTA	CAS#: 60-00-4	<1%
(ETHYLENEDIAMINETETRAACETIC ACID)	EINECS#:200-449-4	

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, 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: ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). IN LYOPHILIZED FORM, SWEEP UP WITHOUT CREATING DUST. 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 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: PRODUCT IS NOT EXPLOSIVE.

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

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: NO DATA AVAILABLE

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.

NO DATA AVAILABLE FOR ACUTE TOXICITY, SKIN CORROSION/IRRITATION, SERIOUS EYE DAMAGE/EYE IRRITATION, RESPIRATORY OR SKIN SENSITIZATION, GERM CELL MUTAGENICITY, SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE, SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE OR ASPIRATION HAZARD

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. 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.

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.

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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSAB-200

NAME: ALBUMIN FROM BOVINE SERUM

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 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

BOVINE ALBUMIN PROTEIN	CAS#: 9048-46-8	≥95%
	EINECS#: 232-936-2	

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

UNIVERSAL BINDERS, SAWDUST). IN LYOPHILIZED FORM, SWEEP UP AND SHOVEL. 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 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

pH: 4.8-7.5

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: SOLUBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: STRONG OXIDIZING AGENTS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: NO DATA AVAILABLE

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.

NO DATA AVAILABLE FOR ACUTE TOXICITY, SKIN CORROSION/IRRITATION, SERIOUS EYE DAMAGE/EYE IRRITATION, RESPIRATORY OR SKIN SENSITIZATION, GERM CELL MUTAGENICITY, SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE, SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE OR ASPIRATION HAZARD

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. 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.

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

PA AND NJ RIGHT TO KNOW COMPONENTS

SERUM ALBUMIN CAS#: 9048-46-8

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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSA01

NAME: GENERAL ACTIN 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 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

COMPRISED OF:

TRIS BASE	CAS#: 77-86-1	<1%
	EINECS#: 201-064-4	
CALCIUM CHLORIDE	CAS#: 10035-04-8	<1%
	EINECS#: 233-140-8	

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, 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: ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). IN LYOPHILIZED FORM, SWEEP UP WITHOUT CREATING DUST. 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 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 TROUGH 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: PRODUCT IS NOT EXPLOSIVE

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

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: NO DATA AVAILABLE

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.

NO DATA AVAILABLE FOR ACUTE TOXICITY, SKIN CORROSION/IRRITATION, SERIOUS EYE DAMAGE/EYE IRRITATION, RESPIRATORY OR SKIN SENSITIZATION, GERM CELL MUTAGENICITY, SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE, SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE OR ASPIRATION HAZARD

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. 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.

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 MAERIAL 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.

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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSA02

NAME: ACTIN POLYMERIZATION BUFFER (10X CONCENTRATION)

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

THE ONLY HAZARDOUS REAGENT ABOVE 1% IS POTASSIUM CHLORIDE

OSHA HAZARDS

TARGET ORGAN EFFECT

TARGET ORGANS

HEART

GHS CLASSIFICATION

ACUTE TOXICITY, ORAL (CATEGORY 5)

EYE IRRITATION (CATEGORY 2B)

ACUTE AQUATIC TOXICITY (CATEGORY 3)

SIGNAL WORD: WARNING

HAZARD PICTOGRAMS: NONE

HEALTH HAZARD STATEMENTS:

H303: MAY BE HARMFUL IF SWALLOWED

H320: CAUSES EYE IRRITATION

H402: HARMFUL TO AQUATIC LIFE

PRECAUTIONARY STATEMENTS:

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. 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.

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH HAZARD = 0
REACTIVITY = 0

HMIS RATINGS

HEALTH HAZARD = 1
FLAMMABILITY = 0
PHYSICAL HAZARDS = 0
CHRONIC HEALTH HAZARD = *

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

GUANIDINE CARBONATE	XI;S22; R22/36-38	CAS#: 593-85-1 EINECS#:209-813-7	<1%
POTASSIUM CHLORIDE		CAS#: 7447-40-7 EINECS#: 231-211-8	3.8%
MAGNESIUM CHLORIDE		CAS#: 7791-18-6 EINECS#: UNLISTED	<1%
ATP (ADENOSINE 5'-TRIPHOSPHATE)		CAS#: 34369-07-8 EINECS#: UNLISTED	<1%

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. CONSULT A 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. CONSULT A 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 - HYDROGEN CHLORIDE GAS, 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. AVOID DUST FORMATION. AVOID BREATHING DUST, VAPORS, MIST, OR GAS. ENSURE ADEQUATE VENTILATION.

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). IN LYOPHILIZED FORM, SWEEP UP WITHOUT CREATING DUST. 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. AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED.

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. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. STORE DESICCATED.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS: KEEP RECEPTACLE TIGHTLY SEALED IN A DRY AND WELL-VENTILATED PLACE. HYGROSCOPIC.

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

USE A DUST MASK TYPE P95 OR OTHER SHORT TERM FILTER DEVICE: FILTER P1
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 OR SAFETY GLASSES WITH SIDE-SHIELDS

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 UNDER RECOMMENDED STORAGE CONDITIONS.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: AVOID STRONG OXIDIZING AGENTS, STRONG ACIDS. AVOID EXPOSURE TO MOISTURE

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: HYDROGEN CHLORIDE GAS, POTASSIUM OXIDES. OTHER DECOMPOSITION PRODUCTS: NO DATA AVAILABLE

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.

ACUTE TOXICITY

LD50 ORAL - NO DATA AVAILABLE

INHALATION LC50 - NO DATA AVAILABLE

DERMAL LD50 - NO DATA AVAILABLE

SKIN CORROSION/IRRITATION

NO DATA AVAILABLE

SERIOUS EYE DAMAGE/EYE IRRITATION

EYES -RABBIT- MILD EYE IRRITATION -24 H

RESPIRATORY OR SKIN SENSITIZATION

NO DATA AVAILABLE

NO DATA IS AVAILABLE REGARDING GERM CELL MUTAGENICITY, REPRODUCTIVE TOXICITY, TERATOGENICITY, SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE), ASPIRATION HAZARD, OR SYNERGISTIC EFFECTS.

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

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

SIGNS AND SYMPTOMS OF EXPOSURE

HYPERKALEMIA, NAUSEA, VOMITING, ABDOMINAL PAIN, DIARRHEA, CONSTIPATION, PARESTHESIA, THIRST, DIZZINESS, RASH, PRURITUS, WEAKNESS, MUSCLE CRAMPS, MINOR PSYCHIATRIC CHANGES, MINOR VISUAL CHANGES

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

TOXICITY TO FISH	LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 880 mg/l - 96 h
	MORTALITY NOEC - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 500 mg/l - 7 d
	MORTALITY LOEC - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 1000 mg/l - 7 d
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	EC50 - DAPHNIA MAGNA (WATER FLEA) - 83 mg/l - 48 h

NO ADDITIONAL DATA AVAILABLE

AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL

HARMFUL TO AQUATIC LIFE

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 MAERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND

SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS AN 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

TARGET ORGAN EFFECT

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

CHRONIC HEALTH HAZARD

PA AND NJ RIGHT TO KNOW COMPONENTS

POTASSIUM CHLORIDE CAS#: 7447-40-7

CA 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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSA03

NAME: F-ACTIN CUSHION 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

TARGET ORGAN EFFECT

TARGET ORGANS

KIDNEY

GHS CLASSIFICATION

SKIN IRRITATION (CATEGORY 3)

EYE IRRITATION (CATEGORY 2B)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM	NONE
SIGNAL WORD	WARNING

HAZARD STATEMENTS

H316 CAUSES MILD SKIN IRRITATION

H320 CAUSES EYE IRRITATION

PRECAUTIONARY STATEMENTS

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

NFPA RATINGS (SCALE 0-4)

FIRE = 1
HEALTH HAZARD = 0
REACTIVITY HAZARD = 0

HMIS RATINGS

HEALTH HAZARD = 0
FLAMMABILITY = 1
PHYSICAL HAZARDS = 0
CHRONIC HEALTH HAZARD = *

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MAGNESIUM CHLORIDE HEXAHYDRATE	CAS#: 7791-18-6 EINECS#: 232-094-6	<1%
TRIS BASE	CAS#: 77-86-1 EINECS#: 201-064-4	<1%
POTASSIUM CHLORIDE	CAS#: 7447-40-7 EINECS#: 231-211-8	<1%
GLYCEROL	CAS#: 56-81-5 EINECS#: 200-289-5	10%

REMAINING INGREDIENT IS WATER

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. CONSULT A PHYSICIAN.

AFTER EYE CONTACT: RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT A PHYSICIAN.

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

WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. FIREFIGHTING MEASURES

CONDITIONS OF FLAMMABILITY

NOT FLAMMABLE OR COMBUSTIBLE

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING AGENTS: CARBON DIOXIDE, ALCOHOL-RESISTANT FOAM, 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

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: 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. 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 OR INHALATION OF VAPOR OR MIST. 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.

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. HYGROSCOPIC

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

COMPONENT	CAS#	VALUE	CONTROL PARAMETERS	BASIS
GLYCEROL	56-81-5	TWA	10 mg/m ³	USA. OSHA - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS - 1910.1000
		TWA	5 mg/m ³	USA. OSHA - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS - 1910.1000
		TWA	10 mg/m ³	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
REMARKS	UPPER RESPIRATORY TRACT IRRITATION	TWA	15 mg/m ³	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS
		TWA	5 mg/m ³	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS

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

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN14387) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR.

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 OR SAFETY GLASSES WITH SIDE-SHIELDS

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: NO DATA AVAILABLE

DANGER OF EXPLOSION: NO DATA AVAILABLE.

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: SOLUBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE WHEN STORED AS RECOMMENDED.

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

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

ACUTE TOXICITY

LD50 ORAL

NO DATA AVAILABLE

INHALATION LC50

NO DATA AVAILABLE

DERMAL LD50

LD50 DERMAL -RABBIT- >10,000 mg/kg

OTHER INFORMATION ON ACUTE TOXICITY

NO DATA AVAILABLE

SKIN CORROSION/IRRITATION

NO DATA AVAILABLE

SERIOUS EYE DAMAGE/EYE IRRITATION

NO DATA AVAILABLE

RESPIRATORY OR SKIN SENSITIZATION

NO DATA AVAILABLE

GERM CELL MUTAGENICITY

NO DATA AVAILABLE

CARCINOGENICITY

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.

REPRODUCTIVE TOXICITY

NO DATA AVAILABLE

TERATOGENICITY

NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (GLOBALLY HARMONIZED SYSTEM)

NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (GLOBALLY HARMONIZED SYSTEM)

NO DATA AVAILABLE

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

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

SIGNS AND SYMPTOMS OF EXPOSURE

PROLONGED OR REPEATED EXPOSURE MAY CAUSE: NAUSEA, HEADACHE, VOMITING

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

TARGET ORGAN EFFECT

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

CHRONIC HEALTH HAZARD

STATE RIGHT TO KNOW COMPONENTS

PA, MA, AND NJ

GLYCEROL

CAS#: 56-81-5

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.

COPYRIGHT 2012 CYTOSKELETON, INC.

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

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

DIGUANIDINIUM 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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSEG-01

NAME: EGTA SOLUTION

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 KOWN OSHA HAZARDS

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM	NONE
SIGNAL WORD	WARNING

HAZARD STATEMENTS

H303 MAY BE HARMFUL IF SWALLOWED

PRECAUTIONARY STATEMENTS

NONE

NFPA RATINGS (SCALE 0-4)

FIRE = 0

HEALTH = 0

REACTIVITY = 0

HMIS RATINGS

HEALTH = 1

FIRE = 0

REACTIVITY = 0

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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPRISED OF:

ETHYLENEBIS(OXYETHYLENENITRILO) TETRA (ACETIC ACID)	CAS#: 67-42-5 EINECS#: 200-651-2	19%
--	-------------------------------------	-----

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, 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: ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). IN LYOPHILIZED FORM, SWEEP UP AND

SHOVEL. 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 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: LIQUID

CHANGE IN CONDITION

pH: NO DATA AVAILABLE

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: SOLUBLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

CHEMICAL STABILITY

STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: STRONG OXIDIZING AGENTS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - CARBON OXIDES, NITROGEN OXIDES (NO_x)

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.

ACUTE TOXICITY

LD50 ORAL -RAT- 3,587 mg/kg

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. 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.

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 MAERIAL 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

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

NO SARA HAZARDS

PA AND NJ RIGHT TO KNOW COMPONENTS

ETHYLENEBIS(OXYETHYLENENITRILO)
TETRA (ACETIC ACID)

CAS#: 67-42-5

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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSMG-01

NAME: MgCl₂ SOLUTION

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

TARGET ORGAN EFFECT

TARGET ORGANS

CENTRAL NERVOUS SYSTEM, KIDNEY, GASTROINTESTINAL TRACT

THIS PRODUCT IS NOT CONSIDERED A DANGEROUS SUBSTANCE ACCORDING TO GHS.

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
INGESTION	MAY BE HARMFUL IF SWALLOWED
EYES	MAY CAUSE EYE IRRITATION

NFPA RATINGS (SCALE 0-4)

FIRE = 0

HEALTH HAZARD = 0

REACTIVITY HAZARD = 0

HMIS RATINGS

HEALTH HAZARD = 0
FLAMMABILITY = 0
PHYSICAL HAZARDS = 0
CHRONIC HEALTH HAZARD = *

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MAGNESIUM CHLORIDE HEXAHYDRATE	CAS#: 7791-18-6 EINECS#: 232-094-6	2%
WATER	CAS#: 7732-18-5 EINECS#:231-791-2	98%

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.

AFTER EYE CONTACT: RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER.

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

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: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: HYDROGEN CHLORIDE GAS, MAGNESIUM OXIDE

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. 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: 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 STATE, 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 P1 (EN 143) OR TYPE N95 (US)
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: 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: NO DATA AVAILABLE

DANGER OF EXPLOSION: NO DATA AVAILABLE.

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: NOT APPLICABLE

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

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY

LD50 ORAL -RAT- 8,100 mg/kg

INHALATION LC50

NO DATA AVAILABLE

DERMAL LD50

NO DATA AVAILABLE

OTHER INFORMATION ON ACUTE TOXICITY

NO DATA AVAILABLE

SKIN CORROSION/IRRITATION

NO DATA AVAILABLE

SERIOUS EYE DAMAGE/EYE IRRITATION

NO DATA AVAILABLE

RESPIRATORY OR SKIN SENSITIZATION

NO DATA AVAILABLE

GERM CELL MUTAGENICITY

NO DATA AVAILABLE

CARCINOGENICITY

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.

REPRODUCTIVE TOXICITY

NO DATA AVAILABLE

TERATOGENICITY

NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (GLOBALLY HARMONIZED SYSTEM)

NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (GLOBALLY HARMONIZED SYSTEM)

NO DATA AVAILABLE

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

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

TARGET ORGAN EFFECT

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
CHRONIC HEALTH HAZARD

STATE RIGHT TO KNOW COMPONENTS

PA AND NJ

MAGNESIUM CHLORIDE HEXAHYDRATE CAS#: 7791-18-6

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.

COPYRIGHT 2012 CYTOSKELETON, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSTR-01 AND BSTR-02

NAME: Tris-HCl pH 7.5 (BSTR-01) AND Tris-HCl pH 6.5 (BSTR-02)

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

IRRITANT

GHS CLASSIFICATION

SKIN IRRITATION (CATEGORY 2)

EYE IRRITATION (CATEGORY 2A)

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM



SIGNAL WORD

WARNING

HAZARD STATEMENTS

H315 CAUSES SKIN IRRITATION

H319 CAUSES SERIOUS EYE IRRITATION

H335 MAY CAUSE RESPIRATORY IRRITATION

PRECAUTIONARY STATEMENTS

P261 AVOID BREATHING DUST/FUME/GAS/MIST/VAPORS/SPRAY

P264 WASH SKIN THOROUGHLY AFTER HANDLING

P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA

P280	WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION
P302+P352 P304+P340	IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER 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.
P312 P332+P313	CALL A POISON CENTER OR DOCTOR IF YOU FEEL UNWELL 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
P501	DISPOSE OF CONTENTS/CONTAINERS TO AN APPROVED WASTE DISPOSAL PLANT

NFPA RATINGS (SCALE 0-4)

FIRE = 0
HEALTH = 2
REACTIVITY = 0

HMIS RATINGS

HEALTH = 2
FIRE = 0
REACTIVITY = 0

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	MAY BE HARMFUL IF SWALLOWED.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

BSTR-01 IS COMPRISED OF:

TRIS BASE	CAS#: 77-86-1	1.2%
	EINECS#: 201-064-4	

BSTR-02 IS COMPRISED OF:

TRIS BASE	CAS#: 77-86-1	12%
	EINECS#: 201-064-4	

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, ALCOHOL-RESISTENT FOAM 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)

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). IN LYOPHILIZED FORM, SWEEP UP WITHOUT CREATING DUST. 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. HYGROSCOPIC.

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: LYOPHILIZED POWDER (BSTR-01) AND LIQUID (BSTR-02)

pH: 7.5 for BSTR-01 AND 6.5 FOR BSTR-02

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. AVOID HYGROSCOPIC CONDITIONS

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - CARBON OXIDES, NITROGEN OXIDES (NO_x)

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.

ACUTE TOXICITY

ORAL LD50

LD50 ORAL -RAT- 5,900 mg/kg

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (GHS)

INHALATION - MAY CAUSE RESPIRATORY IRRITATION

NO DATA AVAILABLE FOR SKIN CORROSION/IRRITATION, SERIOUS EYE DAMAGE/EYE IRRITATION, RESPIRATORY OR SKIN SENSITIZATION, GERM CELL MUTAGENICITY, SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE OR ASPIRATION HAZARD

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	MAY BE HARMFUL 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

IRRITANT

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 HAZARD**

PA AND NJ RIGHT TO KNOW COMPONENTS

Tris (hydroxymethyl) aminomethane CAS#: 77-86-1

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.

COPYRIGHT 2012 CYTOSKELETON, INC.