

**MSDS COVERSHEET**

**CATALOG # BK131**

**RAS G-LISA ACTIVATION ASSAY BIOCHEM KIT: 96 ASSAYS  
(ABSORBANCE-BASED)**

<b>PART/CATALOG #</b>	<b>DESCRIPTION</b>
GL64 (no MSDS needed)	96 well Ras-GTP binding plate
GL11	Anti-Ras antibody (recognizes H-, N-, and K-Ras)
GL02	Secondary antibody horseradish peroxidase conjugate (HRP)
RSCA	Ras control protein (constitutively active H-Ras)
GL36	Cell lysis buffer
GL37	Binding buffer
PE38	Wash buffer
GL45	Antigen presenting buffer
GL47	Antibody dilution buffer
GL43	HRP detection reagent A
GL44	HRP detection reagent B
GL80	HRP stop solution
GL50	Precision red advanced protein assay
PIC02	Protease inhibitor cocktail

**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL11

**NAME:** ANTI-Ras MONOCLONAL ANTIBODY (RECOGNIZES H-, N-, AND K-Ras)

**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

NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS. HANDLING AND/OR PROCESSING OF THIS MATERIAL MAY GENERATE A DUST WHICH CAN CAUSE MECHANICAL IRRITATION OF THE EYES, SKIN, NOSE AND THROAT. AVOID PROLONGED CONTACT WITH EYES, SKIN AND CLOTHING.

**NFPA 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**

PROTEIN	CAS#: NONE	≥95%
	EINECS#: NONE	
SUCROSE	CAS#: 57-50-1	5%
	EINECS#: 200-334-9	
PIPES (PIPERAZINE-N, N-BIS(2-ETHANESULFONIC ACID), SESQUISODIUM SALT	CAS#: 100037-69-2	<1%
	EINECS#: UNLISTED	
DEXTRAN	CAS#: 9004-54-0	1%
	EINECS#: 232-677-5	

**SECTION 4. FIRST-AID MEASURES**

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

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

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

**AFTER SWALLOWING:** WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL FOR PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

**SECTION 5. FIREFIGHTING MEASURES**

## **EXTINGUISHING MEDIA**

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

## **ADVICE FOR FIREFIGHTERS**

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

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES.

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

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

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

## **SECTION 7. HANDLING AND STORAGE**

### **HANDLING**

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

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NOT IGNITABLE

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES  
STORAGE

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

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **PERSONAL PROTECTIVE EQUIPMENT**

#### **GENERAL PROTECTIVE AND HYGIENIC MEASURES**

KEEP AWAY FROM FOODSTUFFS, BEVERAGES AND FEED

WASH HANDS BEFORE BREAKS AND AT THE END OF WORK

IMMEDIATELY REMOVE ALL SOILED AND CONTAMINATED CLOTHING

AVOID CONTACT WITH THE EYES AND SKIN

#### **BREATHING EQUIPMENT**

SHORT TERM FILTER DEVICE: FILTER P2

DO NOT BREATHE. USE MECHANICAL EXHAUST SYSTEM

**PROTECTION OF HANDS  
PROTECTIVE GLOVES.**

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

**MATERIAL OF GLOVES**

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

**PENETRATION TIME OF GLOVE MATERIAL**

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

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

NEOPRENE GLOVES

**EYE PROTECTION:** TIGHTLY SEALED GOGGLES

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

**GENERAL INFORMATION**

FORM: SOLID (LYOPHILIZED POWDER)

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: N/A

BOILING POINT/BOILING RANGE: N/A

FLASH POINT: N/A.

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.

DENSITY: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

**SECTION 10. STABILITY AND REACTIVITY**

**REACTIVITY**

**CHEMICAL STABILITY**

STABLE WHEN STORED AS RECOMMENDED.

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

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DANGEROUS REACTIONS KNOWN

**HAZARDOUS DECOMPOSITION PRODUCTS:** NO DANGEROUS PRODUCTS KNOWN

## **SECTION 11. TOXICOLOGICAL INFORMATION**

### **INFORMATION ON TOXICOLOGICAL EFFECTS**

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

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

ON THE SKIN: MAY CAUSE SKIN IRRITATION

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN

ON THE EYE: MAY CAUSE EYE IRRITATION

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

INGESTION: MAY BE HARMFUL IF SWALLOWED

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

## **SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

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

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

### **UNITED STATES REGULATORY INFORMATION**

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

NONE OF THE INGREDIENTS IS LISTED.

**SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA)  
SECTION 313:**

THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

### **SARA 311/312 HAZARDS**

NO SARA HAZARDS

### **MA, PA AND NJ RIGHT TO KNOW COMPONENTS**

NONE LISTED

### **CALIFORNIA PROP. 65 COMPONENTS**

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

### **CANADA REGULATORY INFORMATION**

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

### **EU REGULATORY INFORMATION**

THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO EU LEGISLATION.

## **SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL02

**NAME:** SECONDARY ANTIBODY-HORSERADISH PEROXIDASE (HRP)-CONJUGATED

**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

NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS. HANDLING AND/OR PROCESSING OF THIS MATERIAL MAY GENERATE A DUST WHICH CAN CAUSE MECHANICAL IRRITATION OF THE EYES, SKIN, NOSE AND THROAT. AVOID PROLONGED CONTACT WITH EYES, SKIN AND CLOTHING.



**NFPA 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**

PROTEIN	CAS#: NONE	≥95%
	EINECS#: NONE	
SODIUM CHLORIDE	CAS#: 7647-14-5	<2%
	EINECS#: 231-598-3	
BOVINE SERUM ALBUMIN	CAS#: 9048-46-8	<1%
	EINECS#: 232-936-2	
SODIUM PHOSPHATE	CAS#: 7558-79-4	<1%
	EINECS#:231-448-7	

**SECTION 4. FIRST-AID MEASURES**

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

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

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

**AFTER SWALLOWING:** WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL FOR PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

**SECTION 5. FIREFIGHTING MEASURES****EXTINGUISHING MEDIA**

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

**ADVICE FOR FIREFIGHTERS**

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

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES.

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

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

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

## **SECTION 7. HANDLING AND STORAGE**

**HANDLING**

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

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NOT IGNITABLE

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES  
STORAGE

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

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

**PERSONAL PROTECTIVE EQUIPMENT**

**GENERAL PROTECTIVE AND HYGIENIC MEASURES**

KEEP AWAY FROM FOODSTUFFS, BEVERAGES AND FEED

WASH HANDS BEFORE BREAKS AND AT THE END OF WORK

IMMEDIATELY REMOVE ALL SOILED AND CONTAMINATED CLOTHING

AVOID CONTACT WITH THE EYES AND SKIN

**BREATHING EQUIPMENT**

SHORT TERM FILTER DEVICE: FILTER P2

DO NOT BREATHE. USE MECHANICAL EXHAUST SYSTEM

**PROTECTION OF HANDS  
PROTECTIVE GLOVES.**

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

**MATERIAL OF GLOVES**

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

**PENETRATION TIME OF GLOVE MATERIAL**

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

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

NEOPRENE GLOVES

**EYE PROTECTION:** TIGHTLY SEALED GOGGLES

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

**GENERAL INFORMATION**

FORM: SOLID (LYOPHILIZED POWDER)

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: N/A

BOILING POINT/BOILING RANGE: N/A

FLASH POINT: N/A.

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.

DENSITY: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

**SECTION 10. STABILITY AND REACTIVITY**

**REACTIVITY**

**CHEMICAL STABILITY**

STABLE WHEN STORED AS RECOMMENDED.

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

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DANGEROUS REACTIONS KNOWN

**HAZARDOUS DECOMPOSITION PRODUCTS: NO DANGEROUS PRODUCTS KNOWN**

## **SECTION 11. TOXICOLOGICAL INFORMATION**

### **INFORMATION ON TOXICOLOGICAL EFFECTS**

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

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

ON THE SKIN: MAY CAUSE SKIN IRRITATION

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN

ON THE EYE: MAY CAUSE EYE IRRITATION

INHALATION: MAY IRRITATE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

MAY BE HARMFUL IF INHALED

INGESTION: MAY BE HARMFUL IF SWALLOWED

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

## **SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

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

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

## **UNITED STATES REGULATORY INFORMATION**

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

NONE OF THE INGREDIENTS IS LISTED.

### **SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 313:**

THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

### **SARA 311/312 HAZARDS**

NO SARA HAZARDS

### **MA, PA AND NJ RIGHT TO KNOW COMPONENTS**

NONE LISTED

### **CALIFORNIA PROP. 65 COMPONENTS**

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

### **CANADA REGULATORY INFORMATION**

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

### **EU REGULATORY INFORMATION**

THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO EU LEGISLATION.

## **SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** RSCA

**NAME:** Ras CONTROL PROTEIN (CONSTITUTIVELY ACTIVE H-Ras)

**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

NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS. HANDLING AND/OR PROCESSING OF THIS MATERIAL MAY GENERATE A DUST WHICH CAN CAUSE MECHANICAL IRRITATION OF THE EYES, SKIN, NOSE AND THROAT. AVOID PROLONGED CONTACT WITH EYES, SKIN AND CLOTHING.

**NFPA 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**

TRIS BASE	CAS#: 77-86-1	<1%
	EINECS#: 201-064-4	
MAGNESIUM CHLORIDE	CAS#: 7791-18-6	<1%
	EINECS#: UNLISTED	
DEXTRAN	CAS#: 9004-54-0	1%
	EINECS#: 232-677-5	
SUCROSE	CAS#: 57-50-1	5%
	EINECS#: 200-334-9	
SODIUM CHLORIDE	CAS#: 7647-14-5	<1%
	EINECS#: 231-598-3	
PROTEIN	CAS#: NONE	≥90%
	EINECS#: NONE	

**SECTION 4. FIRST-AID MEASURES**

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

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

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

**AFTER SWALLOWING:** WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL FOR PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

**SECTION 5. FIREFIGHTING MEASURES****EXTINGUISHING MEDIA**

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

**ADVICE FOR FIREFIGHTERS**

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

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES.

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

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

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

## **SECTION 7. HANDLING AND STORAGE**

**HANDLING**

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

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NOT IGNITABLE

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES  
STORAGE

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

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

**PERSONAL PROTECTIVE EQUIPMENT**

**GENERAL PROTECTIVE AND HYGIENIC MEASURES**

KEEP AWAY FROM FOODSTUFFS, BEVERAGES AND FEED

WASH HANDS BEFORE BREAKS AND AT THE END OF WORK

IMMEDIATELY REMOVE ALL SOILED AND CONTAMINATED CLOTHING

AVOID CONTACT WITH THE EYES AND SKIN

**BREATHING EQUIPMENT**

SHORT TERM FILTER DEVICE: FILTER P2

DO NOT BREATHE. USE MECHANICAL EXHAUST SYSTEM



**PROTECTION OF HANDS  
PROTECTIVE GLOVES.**

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

**MATERIAL OF GLOVES**

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

**PENETRATION TIME OF GLOVE MATERIAL**

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

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

NEOPRENE GLOVES

**EYE PROTECTION:** TIGHTLY SEALED GOGGLES

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

**GENERAL INFORMATION**

FORM: SOLID (LYOPHILIZED POWDER)

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: N/A

BOILING POINT/BOILING RANGE: N/A

FLASH POINT: N/A.

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.

DENSITY: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

**SECTION 10. STABILITY AND REACTIVITY**

**REACTIVITY**

**CHEMICAL STABILITY**

STABLE WHEN STORED AS RECOMMENDED.

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

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DANGEROUS REACTIONS KNOWN

**HAZARDOUS DECOMPOSITION PRODUCTS: NO DANGEROUS PRODUCTS KNOWN**

## **SECTION 11. TOXICOLOGICAL INFORMATION**

### **INFORMATION ON TOXICOLOGICAL EFFECTS**

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

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

ON THE SKIN: MAY CAUSE SKIN IRRITATION

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN

ON THE EYE: MAY CAUSE EYE IRRITATION

INHALATION: MAY IRRITATE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

MAY BE HARMFUL IF INHALED

INGESTION: MAY BE HARMFUL IF SWALLOWED

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

## **SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

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

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

## **UNITED STATES REGULATORY INFORMATION**

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

NONE OF THE INGREDIENTS IS LISTED.

### **SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTION 313:**

THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

### **SARA 311/312 HAZARDS**

NO SARA HAZARDS

### **MA, PA AND NJ RIGHT TO KNOW COMPONENTS**

NONE LISTED

### **CALIFORNIA PROP. 65 COMPONENTS**

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

### **CANADA REGULATORY INFORMATION**

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

### **EU REGULATORY INFORMATION**

THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO EU LEGISLATION.

## **SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL36

**NAME:** CELL LYSIS 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**

HARMFUL BY INGESTION, IRRITANT

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS



**SIGNAL WORD:** DANGER

**HAZARD STATEMENTS:**

H302	HARMFUL IF SWALLOWED
H316	CAUSES MILD SKIN IRRITATION
H318	CAUSES SERIOUS EYE DAMAGE
H335	MAY CAUSE RESPIRATORY IRRITATION
H400	VERY TOXIC TO AQUATIC LIFE

**PRECAUTIONARY STATEMENTS:**

P261	AVOID BREATHING DUST/FUME/GAS/MIST/VAPORS/SPRAY.
P273	AVOID RELEASE TO THE ENVIRONMENT.

P280 WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION.  
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 TRACT IRRITATION
INGESTION	HARMFUL IF SWALLOWED
SKIN	HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION
EYES	CAUSES EYE IRRITATION

#### NFPA RATINGS (SCALE 0-4)

FIRE = 1  
HEALTH = 2  
REACTIVITY = 0

#### HMIS CLASSIFICATION (SCALE 0-4)

FIRE = 1  
HEALTH = 2  
PHYSICAL HAZARDS = 0

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

TRIS BASE	CAS#: 77-86-1	<1%
	EINECS#: 201-064-4	
MAGNESIUM CHLORIDE	CAS#: 7791-18-6	<1%
	EINECS#: UNLISTED	
SODIUM CHLORIDE	CAS#: 7647-14-5	<2%
	EINECS#: 231-598-3	
NONIDET P-40	CAS#: 9016-45-9	2%
	EINECS: 500-024-6	
SODIUM DODECYL SULPHATE	CAS#: 151-21-3	<0.05%
	EINECS#: 205-788-1	

### SECTION 4. FIRST-AID MEASURES

**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** IMMEDIATELY RINSE WITH WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. THEN CONSULT PHYSICIAN

**AFTER SWALLOWING:** DO NOT INDUCE VOMITING. DRINK COPIOUS AMOUNTS OF WATER AND PROVIDE FRESH AIR. CALL FOR PHYSICIAN IMMEDIATELY WASH CONTAMINATED CLOTHING BEFORE REUSE.

## **SECTION 5. FIREFIGHTING MEASURES**

### **EXTINGUISHING MEDIA**

**SUITABLE EXTINGUISHING AGENTS:** CARBON DIOXIDE, EXTINGUISHING POWDER, ALCOHOL-RESISTANT 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, RUBBER GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST OR GAS. INSURE 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). USE NEUTRALIZING AGENT. DISPOSE CONTAMINATED MATERIAL AS HAZARDOUS 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:** ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE. AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOR OR MIST

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NO SPECIAL PRECAUTIONS ARE NECESSARY.

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

**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **GENERAL INFORMATION**

### **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 AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE PARTICLE RESPIRATOR TYPE N100 OR TYPE P3 RESPIRATOR CARTRIDGES AS A BACK-UP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR.  
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 (8 INCH MINIMUM)

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

#### **GENERAL INFORMATION**

FORM: LYOPHILIZED

COLOR: CLEAR

ODOR: UNDETERMINED

pH: NO DATA AVAILABLE

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

IGNITION TEMPERATURE: NO DATA AVAILABLE  
LOWER EXPLOSIVE LIMIT: NO DATA AVAILABLE  
UPPER EXPLOSIVE LIMIT: NO DATA AVAILABLE  
DENSITY: NO DATA AVAILABLE  
SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE  
SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE UNDER RECOMMENDED STORAGE CONDITIONS

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** STRONG OXIDIZING AGENTS

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS – NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

NO DATA AVAILABLE

**INHALATION:** NO DATA AVAILABLE

### **SKIN CORROSION/IRRITATION**

SKIN -RABBIT- MILD SKIN IRRITATION

### **SERIOUS EYE DAMAGE/EYE IRRITATION**

EYES -RABBIT- SEVERE EYE IRRITATION

### **RESPIRATORY OR SKIN SENSITIZATION**

PROLONGED OR REPEATED EXPOSURE MAY CAUSE ALLERGIC REACTIONS IN CERTAIN SENSITIVE INDIVIDUALS

### **GERM CELL MUTAGENICITY**

NO DATA AVAILABLE

### **CARCINOGENICITY**

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.



## **REPRODUCTIVE TOXICITY**

NO DATA AVAILABLE

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

MAY CAUSE RESPIRATORY IRRITATION

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

NO DATA AVAILABLE

ASPIRATION HAZARD

## **POTENTIAL HEALTH EFFECTS**

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

## **SIGNS AND SYMPTOMS OF EXPOSURE**

NAUSEA, HEADACHE, VOMITING

## **SECTION 12. ECOLOGICAL INFORMATION**

### **TOXICITY**

#### **TOXICITY TO FISH**

MORTALITY LOEC -PIMEPHALES PROMELAS (FATHEAD MINNOW) - 2 mg/l -144 h  
MORTALITY NOEC -PIMEPHALES PROMELAS (FATHEAD MINNOW) - 1.8 mg/l -144 h  
LC50 - LEPOMIS MACROCHIRUS (BLUEGILL) - 1.0 - 9.7 mg/l -96 h

#### **TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES**

MORTALITY NEOC -DAPHNIA MAGNA (WATER FLEA) -10 mg/l -144 h  
MORTALITY LOEC -DAPHNIA MAGNA (WATER FLEA) -12.2-17 mg/l -48 h

#### **TOXICITY TO ALGAE**

GROWTH INHIBITION LOEC -PSEUDOKIRCHNERIELLA SUBCAPITATA -16 mg/l -96 h  
GROWTH INHIBITION NOEC -PSEUDOKIRCHNERIELLA SUBCAPITATA -8 mg/l -96 h

### **PERSISTENCE AND DEGRADABILITY**

BIODEGRADABILITY	RESULT: 86% - READILY BIODEGRADABLE METHOD: MODIFIED STURM TEST
------------------	--

**BIOACCUMULATIVE POTENTIAL**

DOES NOT BIOACCUMULATE

**MOBILITY IN SOIL**

NO DATA AVAILABLE

**PBT AND vPvB ASSESSMENT**

NO DATA AVAILABLE

**OTHER ADVERSE EFFECTS**

VERY TOXIC TO AQUATIC LIFE

DO NOT POUR UNDILUTED PRODUCT OR LARGE QUANTITIES INTO DRAINS OR ALLOW TO REACH GROUND WATER, WATER COURSE OR SEWAGE SYSTEM.

**SECTION 13. DISPOSAL CONSIDERATIONS****WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS. HAND OVER TO HAZARDOUS WASTE DISPOSERS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

**SECTION 15. REGULATORY INFORMATION****OSHA HAZARDS**

HARMFUL BY INGESTION, IRRITANT

**DSL STATUS**

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

**WHMIS CLASSIFICATION:** CLASS D-2B: MATERIAL CAUSING OTHER TOXIC EFFECTS (TOXIC)

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

HAZARDOUS CHEMICALS: NONIDET P-40

**SECTION 313 (40CFR372.65):**

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

**U.S. FEDERAL REGULATIONS**

TSCA 8(a) PAIR: NONIDET P-40

(TSCA 8b): ALL COMPONENTS ARE LISTED OR EXEMPTED

**STATE REGULATIONS**

**PA AND NJ RIGHT TO KNOW COMPONENTS**

ETHOXYLATED NONYLPHENOL

CAS#: 9016-45-9

SODIUM CHLORIDE

CAS#: 7647-14-5

MAGNESIUM CHLORIDE

CAS#: 7791-18-6

**CALIFORNIA PROP. 65 COMPONENTS**

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

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL37

**NAME:** BINDING 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**

NONE

**TARGET ORGANS**

NONE

**GHS CLASSIFICATION**

NOT CLASSIFIED AS HAZARDOUS

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

**PICTOGRAM** NONE

**SIGNAL WORD** NONE

**HAZARD STATEMENT(S)**

NONE

**PRECAUTIONARY STATEMENT(S)**

NONE

**NFPA RATINGS (SCALE 0-4)**

FIRE = 0

HEALTH = 0

REACTIVITY = 0

**HMIS CLASSIFICATION**

FIRE = 0

HEALTH = 0

CHRONIC HEALTH HAZARD = \*

PHYSICAL HAZARDS = 0

**POTENTIAL HEALTH EFFECTS**

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

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

BINDING BUFFER	CAS#: PROPRIETARY	10-20%
	EINECS: PROPRIETARY	

**SECTION 4. FIRST-AID MEASURES**

**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** RINSE WITH SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN

**AFTER SWALLOWING:** RINSE MOUTH WITH WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CONSULT PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

**SECTION 5. FIREFIGHTING MEASURES**

**CONDITIONS OF FLAMMABILITY**

NOT FLAMMABLE OR COMBUSTIBLE

**EXTINGUISHING MEDIA**

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

**ADVICE FOR FIREFIGHTERS**

**PROTECTIVE EQUIPMENT:** MOUNT RESPIRATORY PROTECTIVE DEVICE

**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, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST OR GAS. INSURE 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 AND SHOVEL INTO SUITABLE CONTAINER 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. AVOID INHALATION OF VAPOR OR MIST

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NO SPECIAL PRECAUTIONS ARE NECESSARY.

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

**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:**

VALUE	CONTROL PARAMETERS	BASIS
TWA	10 mg/m <sup>3</sup>	USA. WORKPLACE ENVIRONMENTAL EXPOSURE LEVELS (WEEL)

### GENERAL INFORMATION

#### 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

#### BREATHING EQUIPMENT

RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION FROM NUISANCE LEVELS OF DUST ARE DESIRED, USE TYPE N95 (US) OR TYPE P1 (EN 143) DUST MASKS.

#### PROTECTION OF HANDS

### **PROTECTIVE GLOVES.**

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

### **MATERIAL OF GLOVES**

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

### **PENETRATION TIME OF GLOVE MATERIAL**

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

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

NEOPRENE GLOVES

**EYE PROTECTION:** TIGHTLY SEALED GOGGLES. USE EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166 (EU).

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

#### **GENERAL INFORMATION**

FORM: LYOPHILIZED POWDER

COLOR: UNDETERMINED

ODOR: UNDETERMINED

pH-VALUE AT 20°C: NO DATA AVAILABLE

AUTOIGNITION TEMPERATURE: 305°C (581°F)

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: 1.027 g/cm<sup>3</sup>

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE WHEN STORED AS DIRECTED.



**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** STRONG OXIDIZING AGENTS

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS –CARBON OXIDES

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

#### **ORAL LD50**

LD50 ORAL -RAT- 50,000 mg/kg

#### **INHALATION LC50**

NO DATA AVAILABLE

#### **DERMAL LD50**

LD50 DERMAL - RABBIT - >20,000 mg/kg

### **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**

**NTP:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.

**OSHA:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY OSHA.

**IARC:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY IARC.

**ACGIH:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY ACGIH.

### **REPRODUCTIVE TOXICITY**

NO DATA AVAILABLE

### **TERATOGENICITY**

NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE)**

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**POTENTIAL HEALTH EFFECTS**

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

**SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

**SECTION 13. DISPOSAL CONSIDERATIONS**

**WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14. TRANSPORT INFORMATION**

**DOT (US)**

NOT DANGEROUS GOODS

**IMDG**

NOT DANGEROUS GOODS

**IATA**

NOT DANGEROUS GOODS

**SECTION 15. REGULATORY INFORMATION**

**OSHA HAZARDS**

NO KNOWN OSHA HAZARDS

THIS MATERIAL IS NOT CONSIDERED HAZARDOUS BY OSHA STANDARD 29 CFR 1910.1200

#### **EU REGULATORY INFORMATION**

THIS MATERIAL IS NOT CONSIDERED DANGEROUS ACCORDING TO DIRECTIVE 67/548.EEC AND ITS AMENDMENTS

#### **U.S. REGULATORY INFORMATION**

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

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

##### **SECTION 313 (40CFR372.65):**

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

#### **STATE REGULATIONS**

NJ AND PA HAVE THE PRODUCT (BINDING BUFFER) LISTED

##### **CALIFORNIA PROP. 65 COMPONENTS**

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

#### **SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** PE38

**NAME:** WASH 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**

IRRITANT

**GHS CLASSIFICATION**

SKIN IRRITATION (CATEGORY 2)

EYE IRRITATION (CATEGORY 2)

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

PICTOGRAM



SIGNAL WORD

WARNING

**HAZARD STATEMENT(S)**

H315 CAUSES SKIN IRRITATION

H319 CAUSES SERIOUS EYE IRRITATION

H335 MAY CAUSE RESPIRATORY IRRITATION

**PRECAUTIONARY STATEMENT(S)**

P261

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

P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING

#### **HMIS CLASSIFICATION (SCALE 0-4)**

HEALTH HAZARD = 2  
FLAMMABILITY = 1  
PHYSICAL HAZARDS = 0

#### **NFPA RATINGS (SCALE 0-4)**

FIRE = 1  
HEALTH = 2  
REACTIVITY = 0

#### **POTENTIAL HEALTH EFFECTS**

INHALATION	MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT AND MUCOUS MEMBRANE 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**

PHOSPHATE-BUFFERED SALINE-TWEEN TABLETS

CAS#: NONE  
EINECS#: NONE

### **SECTION 4. FIRST-AID MEASURES**

**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** RINSE WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. COVER THE IRRITATED SKIN WITH AN EMOLLIENT. REMOVE CONTAMINATED CLOTHING AND SHOES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN

**AFTER SWALLOWING:** DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. RINSE MOUTH WITH WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF LARGE QUANTITIES OF THIS MATERIAL ARE SWALLOWED, CALL A PHYSICIAN IMMEDIATELY. LOOSEN TIGHT CLOTHING SUCH AS A COLLAR, TIE, BELT, OR WASTEBAND. CONSULT PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

### **SECTION 5. FIREFIGHTING MEASURES**

## **CONDITIONS OF FLAMMABILITY**

MAY BE COMBUSTIBLE AT HIGH TEMPERATURE

## **EXTINGUISHING MEDIA**

**SUITABLE EXTINGUISHING AGENTS:** FOR SMALL FIRES, USE DRY CHEMICAL (EXTINGUISHING) POWDER. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT FOAM. DO NOT USE WATER JET.

## **ADVICE FOR FIREFIGHTERS**

**PROTECTIVE EQUIPMENT:** MOUNT RESPIRATORY PROTECTIVE DEVICE AND FULL PROTECTIVE GEAR

**HAZARDOUS COMBUSTION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - NITROGEN OXIDES

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES, DUST RESPIRATOR, BOOTS. A SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED TO AVOID INHALATION OF THIS PRODUCT. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST OR GAS. INSURE 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 AND SHOVEL INTO SUITABLE CONTAINER 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. AVOID INHALATION OF VAPOR OR MIST. KEEP AWAY FROM HEAT. KEEP AWAY FROM SOURCES OF IGNITION. EMPTY CONTAINERS POSE A FIRE RISK. EVAPORATE THE RESIDUE UNDER A FUME HOOD. AVOID CONTACT WITH SKIN AND EYES.

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** KEEP CONTAINER TIGHTLY CLOSED AND STORED IN A COOL, WELL-VENTILATED AREA. DO NOT STORE ABOVE 20°C (68°F).

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

**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

## **NO COMPONENTS THAT REQUIRE MONITORING AT THE WORKPLACE**

### **GENERAL INFORMATION**

#### **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

#### **BREATHING EQUIPMENT**

USE DUST RESPIRATOR - USE APPROVED/CERTIFIED RESPIRATOR OR EQUIVALENT

#### **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. USE EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166 (EU).

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

#### **GENERAL INFORMATION**

FORM: SOLID

COLOR: WHITE

ODOR: UNDETERMINED

pH-VALUE AT 20°C: NO DATA AVAILABLE

AUTOIGNITION TEMPERATURE: 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: PRODUCT IS NOT EXPLOSIVE  
DENSITY: NO DATA AVAILABLE  
SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE WHEN STORED AS DIRECTED.

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** STRONG OXIDIZING AGENTS

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS – NITROGEN OXIDES

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

#### **ORAL LD50**

NO DATA AVAILABLE

#### **INHALATION LC50**

NO DATA AVAILABLE

#### **DERMAL LD50**

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**

**NTP:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.

**OSHA:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY OSHA.

**IARC:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY IARC.

**ACGIH:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY ACGIH.

### **REPRODUCTIVE TOXICITY**

NO DATA AVAILABLE

### **TERATOGENICITY**

NO DATA AVAILABLE

### **SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE)**

NO DATA AVAILABLE

### **ASPIRATION HAZARD**

NO DATA AVAILABLE

### **POTENTIAL HEALTH EFFECTS**

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

## **SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

## **SECTION 14. TRANSPORT INFORMATION**

**DOT (US)**  
NOT DANGEROUS GOODS

**IMDG**  
NOT DANGEROUS GOODS

**IATA**  
NOT DANGEROUS GOODS

## **SECTION 15. REGULATORY INFORMATION**

**OSHA HAZARDS**  
IRRITANT

### **U.S. REGULATORY INFORMATION**

**SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA)  
SECTION 302/304 (40CFR355.30/40CFR355.40):**  
NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF  
SARA TITLE III, SECTION 302

**SECTION 313 (40CFR372.65):**  
THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS  
NUMERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTBLISHED  
BY SARA TITLE III, SECTION 313

**SARA 311/312 HAZARDS**  
NO SARA HAZARDS

**WHMIS (CANADA)**  
NOT CONTROLLED UNDER WHMIS

**CALIFORNIA PROP. 65 COMPONENTS**  
THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA  
TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

## **SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL45

**NAME:** ANTIGEN PRESENTING 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, CORROSIVE, CARCINOGEN

**TARGET ORGANS**

CENTRAL NERVOUS SYSTEM

**GHS CLASSIFICATION**

SKIN CORROSION (CATEGORY 1A)

SERIOUS EYE DAMAGE (CATEGORY 1)

ACUTE AQUATIC TOXICITY (CATEGORY 1)

CHRONIC AQUATIC TOXICITY (CATEGORY 1)

CARCINOGENICITY (CATEGORY 2)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

PICTOGRAM



SIGNAL WORD

DANGER

**HAZARD STATEMENT(S)**

H314

CAUSES SEVERE SKIN BURNS AND EYE DAMAGE

H318

CAUSES SERIOUS EYE DAMAGE

H351 SUSPECTED OF CAUSING CANCER  
H410 VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS

#### PRECAUTIONARY STATEMENT(S)

P201 OBTAIN SPECIAL INSTRUCTIONS BEFORE USE  
P202 DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN  
READ AND UNDERSTOOD  
P264 WASH SKIN THOROUGHLY AFTER HANDLING  
P273 AVOID RELEASE TO THE ENVIRONMENT  
P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE  
PROTECTION/FACE PROTECTION  
P301+P330+P331 IF SWALLOWED, RINSE MOUTH. DO NOT INDUCE VOMITING  
P303+P361+P353 IF ON SKIN OR HAIR: TAKE OFF IMMEDIATELY ALL CONTAMINATED  
CLOTHING. RINSE WITH WATER/SHOWER  
P304+P340+P310 IF INHALED, REMOVE PERSON TO FRESH AIR AND KEEP  
COMFORTABLE FOR BREATHING. IMMEDIATELY CALL A POISON  
CONTROL CENTER/PHYSICIAN  
P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL  
+P310 MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO  
DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON CONTROL  
CENTER/PHYSICIAN  
P308+P313 IF EXPOSED OR CONCERNED, GET MEDICAL ADVICE/ATTENTION  
P363 WASH CONTAMINATED CLOTHING BEFORE REUSE  
P391 COLLECT SPILLAGE  
P405 STORE LOCKED UP  
P501 DISPOSE OF CONTENTS/CONTAINER TO AN APPROVED WASTE  
DISPOSAL PLANT

#### HMIS CLASSIFICATION

HEALTH HAZARD	3
CHRONIC HEALTH HAZARD	*
FLAMMABILITY	0
PHYSICAL HAZARDS	0

#### NFPA RATINGS (SCALE 0-4)

FIRE = 0  
HEALTH = 3  
REACTIVITY = 0

#### POTENTIAL HEALTH EFFECTS

INHALATION MAY BE HARMFUL IF INHALED. MATERIAL IS EXTREMELY  
DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND  
UPPER RESPIRATORY TRACT.  
SKIN MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN  
BURNS.  
EYES CAUSES EYE BURNS. CAUSES SEVERE EYE BURNS  
INGESTION MAY BE HARMFUL IF SWALLOWED



**METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:** ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). USE NEUTRALIZING AGENT. DISPOSE CONTAMINATED MATERIAL AS HAZARDOUS 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 CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOR OR MIST

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NO SPECIAL PRECAUTIONS ARE NECESSARY.

**REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES:** STORE AT 2-8°C. **INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

**FURTHER INFORMATION ABOUT STORAGE CONDITIONS:** KEEP RECEPTACLE TIGHTLY SEALED AND KEPT UPRIGHT TO PREVENT LEAKAGE.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:

VALUE	CONTROL PARAMETERS	BASIS
TWA	1 PPM	USA. ACGIH THRESHOLD LIMIT VALUES

REMARKS: EYE AND UPPER RESPIRATORY TRACT IRRITATION. CONFIRMED ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS: THE AGENT IS CARCINOGENIC IN EXPERIMENTAL ANIMALS AT A RELATIVELY HIGH DOSE BY ROUTE(S) OF ADMINISTRATION, AT SITE(S), OF HISTOLOGIC TYPE(S), OR BY MECHANISMS(S) THAT MAY NOT BE RELEVANT TO WORKER EXPOSURE. AVAILABLE EPIDEMIOLOGIC STUDIES DO NOT CONFIRM AN INCREASED RISK OF CANCER IN EXPOSED HUMANS. AVAILABLE EVIDENCE DOES NOT SUGGEST THAT THE AGENT IS LIKELY TO CAUSE CANCER IN HUMANS EXCEPT UNDER UNCOMMON OR UNLIKELY ROUTES OR LEVELS OF EXPOSURE.

TWA	0.5 PPM	USA. ACGIH THRESHOLD LIMIT VALUES
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REMARKS: UPPER RESPIRATORY TRACT IRRITATION. EYE IRRITATION. CONFIRMED ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS

TWA	1 PPM; 7 mg/m <sup>3</sup>	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
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PEL	1 PPM; 5 mg/m <sup>3</sup>	CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS (TITLE 8, ARTICLE 107)
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## **GENERAL INFORMATION**

### **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 AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE PARTICLE RESPIRATOR TYPE N100 OR TYPE P3 RESPIRATOR CARTRIDGES AS A BACK-UP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR.  
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 (8 INCH MINIMUM). USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166 (EU).

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

#### **GENERAL INFORMATION**

FORM: LIQUID  
COLOR: CLEAR

ODOR: UNDETERMINED  
pH-VALUE AT 20°C: NO DATA AVAILABLE  
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

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE WHEN STORED AS DIRECTED.

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** STRONG BASES, STRONG OXIDIZING AGENTS, AMINES

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS –CARBON OXIDES, HYDROGEN CHLORIDE GAS

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

#### **ORAL LD50**

LD50 ORAL -RAT- 3,320 mg/kg

#### **INHALATION LC50**

NO DATA AVAILABLE

#### **DERMAL LD50**

NO DATA AVAILABLE

#### **SKIN CORROSION/IRRITATION**

NO DATA AVAILABLE

#### **SERIOUS EYE DAMAGE/EYE IRRITATION**

EYES - RABBIT - SEVERE EYE IRRITATION - 5 SEC

#### **RESPIRATORY OR SKIN SENSITIZATION**

NO DATA AVAILABLE



**GERM CELL MUTAGENICITY**  
IN VITRO ASSAY – LYMPHOCYTE

OECD TEST GUIDELINE 474  
MOUSE – MALE AND FEMALE  
RESULT: NEGATIVE

**CARCINOGENICITY**

**IARC:** 2B - GROUP 2B: POSSIBLY CARCINOGENIC TO HUMANS  
**NTP:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.  
**OSHA:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY OSHA.

**REPRODUCTIVE TOXICITY**

NO DATA AVAILABLE

**TERATOGENICITY**

NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE)**

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**POTENTIAL HEALTH EFFECTS**

INHALATION	MAY BE HARMFUL IF INHALED. MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT
INGESTION	MAY BE HARMFUL IF SWALLOWED
SKIN	MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN BURNS
EYES	CAUSES EYE BURNS. CAUSES SEVERE EYE BURNS.

**SIGNS AND SYMPTOMS OF EXPOSURE**

BURNING SENSATION, COUGH, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, SPASM, INFLAMMATION AND EDEMA OF LARYNX, INFLAMMATION AND EDEMA OF THE BRONCHI, PNEUMONITIS, PULMONARY EDEMA.

**SECTION 12. ECOLOGICAL INFORMATION**

**TOXICITY**

NO DATA AVAILABLE

**PERSISTENCE AND DEGRADABILITY**

NO DATA AVAILABLE

**BIOACCUMULATIVE POTENTIAL**

NO DATA AVAILABLE

**MOBILITY IN SOIL**

NO DATA AVAILABLE

**RESULTS OF PBT AND vPvB ASSESSMENT**

NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED

**GENERAL NOTES:**

DO NOT POUR UNDILUTED PRODUCT OR LARGE QUANTITIES INTO DRAINS OR ALLOW TO REACH GROUND WATER, WATER COURSE OR SEWAGE SYSTEM. AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS. HAND OVER TO HAZARDOUS WASTE DISPOSERS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

**SECTION 15. REGULATORY INFORMATION**

**OSHA HAZARDS**

TARGET ORGAN EFFECT, CORROSIVE, CARCINOGEN

**U.S. REGULATORY INFORMATION**

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

**SECTION 302/304 (40CFR355.30/40CFR355.40):**

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

**SECTION 313 (40CFR372.65):**

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, CHRONIC HEALTH HAZARD

**CANADA REGULATORY INFORMATION**

CLASS E: CORROSIVE SOLID

**STATE REGULATIONS**

MA, NJ, PA HAVE THE PRODUCT (ANTIGEN PRESENTING BUFFER) LISTED

**CALIFORNIA PROP. 65 COMPONENTS**

WARNING! THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL47

**NAME:** ANTIBODY DILUTION 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**

NO KNOWN OSHA HAZARDS

**GHS CLASSIFICATION**

SKIN IRRITATION (CATEGORY 3)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM: NONE

SIGNAL WORD: WARNING

**HAZARD STATEMENTS:**

H316 CAUSES MILD SKIN IRRITATION

**PRECAUTIONARY STATEMENTS:**

NONE

THIS MATERIAL IS NOT CONSIDERED HAZARDOUS BY OSHA STANDARD 29 CFR 1910.1200

THIS MATERIAL IS NOT CLASSIFIED AS DANGEROUS ACCORDING TO DIRECTIVE 67/548.EEC AND ITS AMENDMENTS

## POTENTIAL HEALTH EFFECTS:

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

## NFPA RATINGS (SCALE 0-4)

FIRE = 0  
HEALTH = 1  
REACTIVITY = 0

## HMIS CLASSIFICATION (SCALE 0-4)

FIRE = 0  
HEALTH = 1  
PHYSICAL HAZARDS = 0

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**OF THE COMPONENTS LISTED BELOW THAT HAVE HAZARDS ASSOCIATED WITH THEM, NONE ARE PRESENT AT >1%, SO THIS PRODUCT IS NOT CONSIDERED HAZARDOUS**

SODIUM PHOSPHATE MONOBASIC	CAS#: 7778-77-0 EINECS#: 231-913-4	<1%
SODIUM PHOSPHATE DIBASIC	CAS#: 7558-79-4 EINECS#: 231-448-7	<2%
POTASSIUM CHLORIDE	CAS#: 7447-40-7 EINECS#: 231-211-8	<1%
SODIUM CHLORIDE	CAS#: 7647-14-5 EINECS#: 231-598-3	8%
TWEEN 20	CAS#: 9005-64-5 EINECS: UNLISTED	<1%
BOVINE SERUM ALBUMIN	CAS#: 9048-46-8 EINECS#: 232-936-2	1%
CHLORHEXIDINE DIGLUCONATE	CAS#: 18472-51-0 EINECS#: 242-354-0	<0.1%
NON-FAT DRIED MILK	CAS#: UNLISTED EINECS#: UNLISTED	1%

## SECTION 4. FIRST-AID MEASURES

**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** IMMEDIATELY RINSE WITH SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN

**AFTER SWALLOWING:** RINSE MOUTH WITH WATER AND PROVIDE FRESH AIR. CONSULT 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-RESISTANT 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 - OXIDES OF PHOSPHORUS, SODIUM OXIDES, HYDROGEN CHLORIDE GAS

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST OR GAS. INSURE 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). FOR LYOPHILIZED POWDER, SWEEP UP AND SHOVEL INTO SUITABLE CONTAINER. KEEP WASTE IN CLOSED CONTAINER UNTIL DISPOSAL. 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:** ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE. AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOR OR MIST

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NO SPECIAL PRECAUTIONS ARE NECESSARY.

**REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES:** STORE AT 2-8°C.  
**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **GENERAL INFORMATION**

#### **PERSONAL PROTECTIVE EQUIPMENT**

##### **GENERAL PROTECTIVE AND HYGIENIC MEASURES**

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

##### **BREATHING EQUIPMENT**

RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION FROM NUISANCE LEVELS OF DUST ARE DESIRED, USE TYPE N95 (US) OR TYPE P1 (EN 143) DUST MASKS. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

##### **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: LYOPHILIZED

COLOR: CLEAR

ODOR: UNDETERMINED

pH: NO DATA AVAILABLE

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

IGNITION TEMPERATURE: NO DATA AVAILABLE

LOWER EXPLOSIVE LIMIT: NO DATA AVAILABLE

UPPER EXPLOSIVE LIMIT: NO DATA AVAILABLE

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE UNDER RECOMMENDED STORAGE CONDITIONS

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** STRONG OXIDIZING AGENTS, STRONG ACIDS

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - OXIDES OF PHOSPHORUS, SODIUM OXIDES, HYDROGEN CHLORIDE GAS

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

NO DATA AVAILABLE

### **INHALATION**

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**

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.

**REPRODUCTIVE TOXICITY**

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

**POTENTIAL HEALTH EFFECTS**

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

**SIGNS AND SYMPTOMS OF EXPOSURE**

VOMITING, DIARRHEA, DEHYDRATION, AND CONGESTION MAY OCCUR IN INTERNAL ORGANS

**SECTION 12. ECOLOGICAL INFORMATION**

**TOXICITY**

**TOXICITY TO FISH**

LC50 - LEPOMIS MACROCHIRUS (BLUEGILL) - 5840 mg/l - 96 HOURS

## **TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES**

NOEC - DAPHNIA - 1500 mg/l - 7 DAYS

LC50 - DAPHNIA MAGNA (WATER FLEA) - 1661 mg/l - 48 HOURS

## **PERSISTENCE AND DEGRADABILITY**

NO DATA AVAILABLE

## **BIOACCUMULATIVE POTENTIAL**

NO DATA AVAILABLE

## **MOBILITY IN SOIL**

NO DATA AVAILABLE

## **PBT AND vPvB ASSESSMENT**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS. HAND OVER TO HAZARDOUS WASTE DISPOSERS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

**OSHA HAZARDS**

NO KNOWN OSHA HAZARDS

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

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

**SECTION 313 (40CFR372.65):**

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

**STATE REGULATIONS****PA AND NJ RIGHT TO KNOW COMPONENTS**

DISODIUM HYDROGENORTHOPHOSPHATE	CAS#: 7558-79-4
POTASSIUM DIHYDROGENORTHOPHOSPHATE	CAS#: 7778-77-0
SODIUM CHLORIDE	CAS#: 7647-14-5
POTASSIUM CHLORIDE	CAS#: 7447-40-7
TWEEN 20	CAS#: 9005-64-5
BOVINE SERUM ALBUMIN	CAS#: 9048-46-8
CHLORHEXIDINE DIGLUCONATE	CAS#:18472-51-0

**CALIFORNIA PROP. 65 COMPONENTS**

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

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL40

**NAME:** ANTIBODY DILUTION 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**

NO KNOWN OSHA HAZARDS

**GHS CLASSIFICATION**

SKIN IRRITATION (CATEGORY 3)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM: NONE

SIGNAL WORD: WARNING

**HAZARD STATEMENTS:**

H316 CAUSES MILD SKIN IRRITATION

**PRECAUTIONARY STATEMENTS:**

NONE

THIS MATERIAL IS NOT CONSIDERED HAZARDOUS BY OSHA STANDARD 29 CFR 1910.1200

THIS MATERIAL IS NOT CLASSIFIED AS DANGEROUS ACCORDING TO DIRECTIVE 67/548.EEC AND ITS AMENDMENTS

## POTENTIAL HEALTH EFFECTS:

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

## NFPA RATINGS (SCALE 0-4)

FIRE = 0  
HEALTH = 1  
REACTIVITY = 0

## HMIS CLASSIFICATION (SCALE 0-4)

FIRE = 0  
HEALTH = 1  
PHYSICAL HAZARDS = 0

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**OF THE COMPONENTS LISTED BELOW THAT HAVE HAZARDS ASSOCIATED WITH THEM, NONE ARE PRESENT AT >1%, SO THIS PRODUCT IS NOT CONSIDERED HAZARDOUS**

SODIUM PHOSPHATE MONOBASIC	CAS#: 7778-77-0 EINECS#: 231-913-4	<1%
SODIUM PHOSPHATE DIBASIC	CAS#: 7558-79-4 EINECS#: 231-448-7	<2%
POTASSIUM CHLORIDE	CAS#: 7447-40-7 EINECS#: 231-211-8	<1%
SODIUM CHLORIDE	CAS#: 7647-14-5 EINECS#: 231-598-3	8%
TWEEN 20	CAS#: 9005-64-5 EINECS: UNLISTED	<1%
BOVINE SERUM ALBUMIN	CAS#: 9048-46-8 EINECS#: 232-936-2	1%
CHLORHEXIDINE DIGLUCONATE	CAS#: 18472-51-0 EINECS#: 242-354-0	<0.1%

## SECTION 4. FIRST-AID MEASURES

**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** IMMEDIATELY RINSE WITH SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN

**AFTER SWALLOWING:** RINSE MOUTH WITH WATER AND PROVIDE FRESH AIR. CONSULT 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-RESISTANT 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 - OXIDES OF PHOSPHORUS, SODIUM OXIDES, HYDROGEN CHLORIDE GAS

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES. AVOID DUST FORMATION. AVOID BREATHING VAPORS, MIST OR GAS. INSURE 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). FOR LYOPHILIZED POWDER, SWEEP UP AND SHOVEL INTO SUITABLE CONTAINER. KEEP WASTE IN CLOSED CONTAINER UNTIL DISPOSAL. 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:** ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE. AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOR OR MIST

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NO SPECIAL PRECAUTIONS ARE NECESSARY.

**REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES:** STORE AT 2-8°C.  
**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **GENERAL INFORMATION**

#### **PERSONAL PROTECTIVE EQUIPMENT**

##### **GENERAL PROTECTIVE AND HYGIENIC MEASURES**

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

##### **BREATHING EQUIPMENT**

RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION FROM NUISANCE LEVELS OF DUST ARE DESIRED, USE TYPE N95 (US) OR TYPE P1 (EN 143) DUST MASKS. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

##### **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: LYOPHILIZED

COLOR: CLEAR

ODOR: UNDETERMINED

pH: NO DATA AVAILABLE

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

IGNITION TEMPERATURE: NO DATA AVAILABLE

LOWER EXPLOSIVE LIMIT: NO DATA AVAILABLE

UPPER EXPLOSIVE LIMIT: NO DATA AVAILABLE

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE UNDER RECOMMENDED STORAGE CONDITIONS

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** STRONG OXIDIZING AGENTS, STRONG ACIDS

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - OXIDES OF PHOSPHORUS, SODIUM OXIDES, HYDROGEN CHLORIDE GAS

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

NO DATA AVAILABLE

### **INHALATION**

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**

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.

**REPRODUCTIVE TOXICITY**

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

**POTENTIAL HEALTH EFFECTS**

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

**SIGNS AND SYMPTOMS OF EXPOSURE**

VOMITING, DIARRHEA, DEHYDRATION, AND CONGESTION MAY OCCUR IN INTERNAL ORGANS

**SECTION 12. ECOLOGICAL INFORMATION**

**TOXICITY**

**TOXICITY TO FISH**

LC50 - LEPOMIS MACROCHIRUS (BLUEGILL) - 5840 mg/l - 96 HOURS

## **TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES**

NOEC - DAPHNIA - 1500 mg/l - 7 DAYS

LC50 - DAPHNIA MAGNA (WATER FLEA) - 1661 mg/l - 48 HOURS

## **PERSISTENCE AND DEGRADABILITY**

NO DATA AVAILABLE

## **BIOACCUMULATIVE POTENTIAL**

NO DATA AVAILABLE

## **MOBILITY IN SOIL**

NO DATA AVAILABLE

## **PBT AND vPvB ASSESSMENT**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS. HAND OVER TO HAZARDOUS WASTE DISPOSERS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

**OSHA HAZARDS**

NO KNOWN OSHA HAZARDS

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

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

**SECTION 313 (40CFR372.65):**

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

**STATE REGULATIONS****PA AND NJ RIGHT TO KNOW COMPONENTS**

DISODIUM HYDROGENORTHOPHOSPHATE	CAS#: 7558-79-4
POTASSIUM DIHYDROGENORTHOPHOSPHATE	CAS#: 7778-77-0
SODIUM CHLORIDE	CAS#: 7647-14-5
POTASSIUM CHLORIDE	CAS#: 7447-40-7
TWEEN 20	CAS#: 9005-64-5
BOVINE SERUM ALBUMIN	CAS#: 9048-46-8
CHLORHEXIDINE DIGLUCONATE	CAS#:18472-51-0

**CALIFORNIA PROP. 65 COMPONENTS**

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

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL43 AND GL44

**NAME:** HRP DETECTION REAGENT A (GL43) AND HRP DETECTION REAGENT B (GL44)

**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, TOXIC BY INGESTION, SKIN SENSITIZER, CORROSIVE

**TARGET ORGANS**

LIVER, BLADDER

**GHS CLASSIFICATION**

ACUTE TOXICITY, ORAL (CATEGORY 4)  
SKIN IRRITATION (CATEGORY 2)  
SERIOUS EYE DAMAGE (CATEGORY 1)  
SKIN SENSITIZATION (CATEGORY 1)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

PICTOGRAM



SIGNAL WORD

DANGER

**HAZARD STATEMENT(S)**

H302  
H315

HARMFUL IF SWALLOWED  
CAUSES SKIN IRRITATION

H317 MAY CAUSE AN ALLERGIC SKIN REACTION  
H318 CAUSES SERIOUS EYE DAMAGE

**PRECAUTIONARY STATEMENT(S)**

P280 WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION  
P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL  
MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO  
DO. CONTINUE RINSING

**HMIS CLASSIFICATION (SCALE 0-4)**

HEALTH HAZARD = 3  
CHRONIC HEALTH HAZARD = \*  
FLAMMABILITY = 0  
PHYSICAL HAZARDS = 0

**NFPA RATINGS (SCALE 0-4)**

FIRE = 0  
HEALTH = 3  
REACTIVITY = 0

**POTENTIAL HEALTH EFFECTS**

INHALATION MAY BE HARMFUL IF INHALED. MATERIAL IS EXTREMELY  
DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND  
UPPER RESPIRATORY TRACT  
SKIN MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN  
BURNS  
EYES CAUSES EYE BURNS  
INGESTION TOXIC IF SWALLOWED

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

O-PHENYLENEDIAMINE DIHYDROCHLORIDE	CAS#: 615-28-1 EINECS#: 210-418-7	
CITRIC ACID	CAS#: 77-92-9 EINECS#: 201-069-1	30-60%
HYDROGEN PEROXIDE-UREA	CAS#: 124-43-6 EINECS#: 204-701-4	1-5%

**SECTION 4. FIRST-AID MEASURES**

**GENERAL ADVICE**

CONSULT A PHYSICIAN. SHOW THIS MSDS TO THE PHYSICIAN  
**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS  
IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION.  
CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** RINSE WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN. CONTINUE RINSING EYES DURING TRANSPORT TO HOSPITAL.

**AFTER SWALLOWING:** RINSE MOUTH WITH WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CONSULT PHYSICIAN

REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE.

## **SECTION 5. FIREFIGHTING MEASURES**

### **EXTINGUISHING MEDIA**

**SUITABLE EXTINGUISHING AGENTS:** USE DRY CHEMICAL (EXTINGUISHING) POWDER, WATER SPRAY, CARBON DIOXIDE, OR ALCOHOL RESISTANT FOAM.

### **ADVICE FOR FIREFIGHTERS**

**PROTECTIVE EQUIPMENT:** MOUNT RESPIRATORY PROTECTIVE DEVICE AND FULL PROTECTIVE GEAR

**HAZARDOUS COMBUSTION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - NO DATA AVAILABLE

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES, DUST MASK, BOOTS. AVOID DUST FORMATION. AVOID BREATHING DUST, VAPORS, MIST OR GAS. INSURE 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 AND SHOVEL INTO SUITABLE CONTAINER 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. AVOID FORMATION OF DUST AND AEROSOLS. AVOID INHALATION OF VAPOR OR MIST. AVOID CONTACT WITH SKIN AND EYES.

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** KEEP CONTAINER TIGHTLY CLOSED AND STORED IN A COOL, WELL-VENTILATED AREA.

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

**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **GENERAL INFORMATION**

#### **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

##### **BREATHING EQUIPMENT**

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE PRODUCTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

##### **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. USE EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166 (EU).

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

## **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

### **GENERAL INFORMATION**

FORM: TABLET

COLOR: NO DATA AVAILABLE

ODOR: UNDETERMINED

pH-VALUE AT 20°C: NO DATA AVAILABLE

AUTOIGNITION TEMPERATURE: 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: FULLY MISCIBLE

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE WHEN STORED AS DIRECTED

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** NO DATA AVAILABLE

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS – NO DATA AVAILABLE

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

#### **ORAL LD50**

NO DATA AVAILABLE

#### **INHALATION LC50**

NO DATA AVAILABLE

#### **DERMAL LD50**

NO DATA AVAILABLE

### **SKIN CORROSION/IRRITATION**

NO DATA AVAILABLE



**SERIOUS EYE DAMAGE/EYE IRRITATION**

NO DATA AVAILABLE

**RESPIRATORY OR SKIN SENSITIZATION**

MAY CAUSE ALLERGIC SKIN REACTION

**OTHER INFORMATION ON ACUTE TOXICITY**

NO DATA AVAILABLE

LD50 INTRAPERITONEAL - RAT - 290 mg/kg

**GERM CELL MUTAGENICITY**

NO DATA AVAILABLE

IN VITRO TESTS SHOWED MUTAGENIC EFFECTS

**CARCINOGENICITY**

**NTP:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.

**OSHA:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY OSHA.

**IARC:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY IARC.

**IARC:** 3 - GROUP 3: NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS (1-ETHENYL-2-PYRROLIDINONE HOMOPOLYMER

**ACGIH:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY ACGIH.

**REPRODUCTIVE TOXICITY**

NO DATA AVAILABLE

**TERATOGENICITY**

NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE)**

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**POTENTIAL HEALTH EFFECTS**

INHALATION	MAY BE HARMFUL IF INHALED. MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE UPPER RESPIRATORY TRACT AND MUCOUS MEMBRANES
INGESTION	TOXIC IF SWALLOWED
SKIN	MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN BURNS
EYES	CAUSES EYE BURNS

**SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

### **SECTION 13. DISPOSAL CONSIDERATIONS**

#### **WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

### **SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

### **SECTION 15. REGULATORY INFORMATION**

#### **OSHA HAZARDS**

TARGET ORGAN EFFECT, TOXIC BY INGESTION, SKIN SENSITIZER, CORROSIVE

#### **U.S. REGULATORY INFORMATION**

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

##### **SECTION 302/304 (40CFR355.30/40CFR355.40):**

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

##### **SECTION 313 (40CFR372.65):**

O-PHENYLENEDIAMINE DIHYDROCHLORIDE

CAS#: 615-28-1

#### **SARA 311/312 HAZARDS**

ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD

#### **MA RIGHT TO KNOW COMPONENTS**

DISODIUM HYDROGENORTHOPHOSPHATE

CAS#: 7558-79-4

**PA AND NJ RIGHT TO KNOW COMPONENTS**

DISODIUM HYDROGENORTHOPHOSPHATE

CAS#: 7558-79-4

CITRIC ACID

CAS#: 77-92-9

HYDROGEN PEROXIDE-UREA

CAS#: 124-43-6

DL-LEUCINE

CAS#: 328-39-2

O-PHENYLENEDIAMINE DIHYDROCHLORIDE

CAS#: 615-28-1

**CALIFORNIA PROP. 65 COMPONENTS**

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

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL43 AND GL44

**NAME:** HRP DETECTION REAGENT A (GL43) AND HRP DETECTION REAGENT B (GL44)

**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, TOXIC BY INGESTION, SKIN SENSITIZER, CORROSIVE

**TARGET ORGANS**

LIVER, BLADDER

**GHS CLASSIFICATION**

ACUTE TOXICITY, ORAL (CATEGORY 4)  
SKIN IRRITATION (CATEGORY 2)  
SERIOUS EYE DAMAGE (CATEGORY 1)  
SKIN SENSITIZATION (CATEGORY 1)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

PICTOGRAM



SIGNAL WORD

DANGER

**HAZARD STATEMENT(S)**

H302  
H315

HARMFUL IF SWALLOWED  
CAUSES SKIN IRRITATION

H317 MAY CAUSE AN ALLERGIC SKIN REACTION  
H318 CAUSES SERIOUS EYE DAMAGE

**PRECAUTIONARY STATEMENT(S)**

P280 WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION  
P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL  
MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO  
DO. CONTINUE RINSING

**HMIS CLASSIFICATION (SCALE 0-4)**

HEALTH HAZARD = 3  
CHRONIC HEALTH HAZARD = \*  
FLAMMABILITY = 0  
PHYSICAL HAZARDS = 0

**NFPA RATINGS (SCALE 0-4)**

FIRE = 0  
HEALTH = 3  
REACTIVITY = 0

**POTENTIAL HEALTH EFFECTS**

INHALATION MAY BE HARMFUL IF INHALED. MATERIAL IS EXTREMELY  
DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND  
UPPER RESPIRATORY TRACT  
SKIN MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN  
BURNS  
EYES CAUSES EYE BURNS  
INGESTION TOXIC IF SWALLOWED

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

O-PHENYLENEDIAMINE DIHYDROCHLORIDE	CAS#: 615-28-1 EINECS#: 210-418-7	
CITRIC ACID	CAS#: 77-92-9 EINECS#: 201-069-1	30-60%
HYDROGEN PEROXIDE-UREA	CAS#: 124-43-6 EINECS#: 204-701-4	1-5%

**SECTION 4. FIRST-AID MEASURES**

**GENERAL ADVICE**

CONSULT A PHYSICIAN. SHOW THIS MSDS TO THE PHYSICIAN

**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** RINSE WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN

**AFTER EYE CONTACT:** REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. CONSULT PHYSICIAN. CONTINUE RINSING EYES DURING TRANSPORT TO HOSPITAL.

**AFTER SWALLOWING:** RINSE MOUTH WITH WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CONSULT PHYSICIAN

REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE.

## **SECTION 5. FIREFIGHTING MEASURES**

### **EXTINGUISHING MEDIA**

**SUITABLE EXTINGUISHING AGENTS:** USE DRY CHEMICAL (EXTINGUISHING) POWDER, WATER SPRAY, CARBON DIOXIDE, OR ALCOHOL RESISTANT FOAM.

### **ADVICE FOR FIREFIGHTERS**

**PROTECTIVE EQUIPMENT:** MOUNT RESPIRATORY PROTECTIVE DEVICE AND FULL PROTECTIVE GEAR

**HAZARDOUS COMBUSTION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - NO DATA AVAILABLE

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES, DUST MASK, BOOTS. AVOID DUST FORMATION. AVOID BREATHING DUST, VAPORS, MIST OR GAS. INSURE 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 AND SHOVEL INTO SUITABLE CONTAINER 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. AVOID FORMATION OF DUST AND AEROSOLS. AVOID INHALATION OF VAPOR OR MIST. AVOID CONTACT WITH SKIN AND EYES.

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** KEEP CONTAINER TIGHTLY CLOSED AND STORED IN A COOL, WELL-VENTILATED AREA.

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

**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED AND IN A DRY, WELL-VENTILATED PLACE.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **GENERAL INFORMATION**

#### **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

##### **BREATHING EQUIPMENT**

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE PRODUCTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

##### **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. USE EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166 (EU).

**BODY PROTECTION: PROTECTIVE WORK CLOTHING**

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

#### **GENERAL INFORMATION**

FORM: TABLET

COLOR: NO DATA AVAILABLE

ODOR: UNDETERMINED

pH-VALUE AT 20°C: NO DATA AVAILABLE

AUTOIGNITION TEMPERATURE: 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: FULLY MISCIBLE

SEE SECTION 10.

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

#### **CHEMICAL STABILITY**

STABLE WHEN STORED AS DIRECTED

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** NO DATA AVAILABLE

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**MATERIALS TO AVOID:** NO DATA AVAILABLE

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS – NO DATA AVAILABLE

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

### **ACUTE TOXICITY**

#### **ORAL LD50**

NO DATA AVAILABLE

#### **INHALATION LC50**

NO DATA AVAILABLE

#### **DERMAL LD50**

NO DATA AVAILABLE



**SKIN CORROSION/IRRITATION**

NO DATA AVAILABLE

**SERIOUS EYE DAMAGE/EYE IRRITATION**

NO DATA AVAILABLE

**RESPIRATORY OR SKIN SENSITIZATION**

MAY CAUSE ALLERGIC SKIN REACTION

**OTHER INFORMATION ON ACUTE TOXICITY**

NO DATA AVAILABLE

LD50 INTRAPERITONEAL - RAT - 290 mg/kg

**GERM CELL MUTAGENICITY**

NO DATA AVAILABLE

IN VITRO TESTS SHOWED MUTAGENIC EFFECTS

**CARCINOGENICITY**

**NTP:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.

**OSHA:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY OSHA.

**IARC:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY IARC.

**IARC:** 3 - GROUP 3: NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS (1-ETHENYL-2-PYRROLIDINONE HOMOPOLYMER

**ACGIH:** NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY ACGIH.

**REPRODUCTIVE TOXICITY**

NO DATA AVAILABLE

**TERATOGENICITY**

NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE)**

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**POTENTIAL HEALTH EFFECTS**

INHALATION	MAY BE HARMFUL IF INHALED. MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE UPPER RESPIRATORY TRACT AND MUCOUS MEMBRANES
INGESTION	TOXIC IF SWALLOWED
SKIN	MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN BURNS
EYES	CAUSES EYE BURNS

## **SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS: DISPOSE OF AS UNUSED PRODUCT

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. DISSOLVE OR MIX MATERIAL WITH COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS.

CONTAMINATED PACKAGING: DISPOSE OF AS UNUSED PRODUCT

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

### **OSHA HAZARDS**

TARGET ORGAN EFFECT, TOXIC BY INGESTION, SKIN SENSITIZER, CORROSIVE

### **U.S. REGULATORY INFORMATION**

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

**SECTION 302/304 (40CFR355.30/40CFR355.40):**

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

**SECTION 313 (40CFR372.65):**

O-PHENYLENEDIAMINE DIHYDROCHLORIDE

CAS#: 615-28-1

**SARA 311/312 HAZARDS**

ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD

**MA RIGHT TO KNOW COMPONENTS**

DISODIUM HYDROGENORTHOPHOSPHATE CAS#: 7558-79-4

**PA AND NJ RIGHT TO KNOW COMPONENTS**

DISODIUM HYDROGENORTHOPHOSPHATE CAS#: 7558-79-4

CITRIC ACID CAS#: 77-92-9

HYDROGEN PEROXIDE-UREA CAS#: 124-43-6

DL-LEUCINE CAS#: 328-39-2

O-PHENYLENEDIAMINE DIHYDROCHLORIDE CAS#: 615-28-1

**CALIFORNIA PROP. 65 COMPONENTS**

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

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** GL80

**NAME:** HRP STOP 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**

NONE

**TARGET ORGANS**

NONE

**GHS CLASSIFICATION**

NOT CLASSIFIED AS HAZARDOUS

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

**PICTOGRAM** NONE

**SIGNAL WORD** NONE

**HAZARD STATEMENT(S)**

NONE

**PRECAUTIONARY STATEMENT(S)**

NONE

**NFPA RATINGS (SCALE 0-4)**

FIRE = 0

HEALTH = 0

REACTIVITY = 0

**HMIS CLASSIFICATION**

FIRE = 0

HEALTH = 0

CHRONIC HEALTH HAZARD = NONE

PHYSICAL HAZARDS = 0

**POTENTIAL HEALTH EFFECTS**

INHALATION	NO DANGER
SKIN	NO DANGER
EYES	NO DANGER
INGESTION	NO DANGER

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

WATER	CAS#: 7732-18-5	100%
	EINECS: 231-791-2	

**SECTION 4. FIRST-AID MEASURES**

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

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

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

**AFTER SWALLOWING:** WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL FOR PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

**SECTION 5. FIREFIGHTING MEASURES**

**EXTINGUISHING MEDIA**

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

**ADVICE FOR FIREFIGHTERS**

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

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES.

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

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

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

## **SECTION 7. HANDLING AND STORAGE**

### **HANDLING**

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

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** NOT IGNITABLE

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES  
STORAGE

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

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

### **PERSONAL PROTECTIVE EQUIPMENT**

#### **GENERAL PROTECTIVE AND HYGIENIC MEASURES**

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

#### **BREATHING EQUIPMENT**

SHORT TERM FILTER DEVICE: FILTER P2  
DO NOT BREATHE. USE MECHANICAL EXHAUST SYSTEM

#### **PROTECTION OF HANDS**

##### **PROTECTIVE GLOVES.**

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

##### **MATERIAL OF GLOVES**

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

**PENETRATION TIME OF GLOVE MATERIAL**

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

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

NEOPRENE GLOVES

**EYE PROTECTION:** TIGHTLY SEALED GOGGLES

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

**GENERAL INFORMATION**

FORM: SOLID (LYOPHILIZED POWDER)

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: N/A

BOILING POINT/BOILING RANGE: N/A

FLASH POINT: N/A.

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE.

DENSITY: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

**SECTION 10. STABILITY AND REACTIVITY**

**REACTIVITY**

**CHEMICAL STABILITY**

STABLE WHEN STORED AS RECOMMENDED.

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

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DANGEROUS REACTIONS KNOWN

**HAZARDOUS DECOMPOSITION PRODUCTS:** NO DANGEROUS PRODUCTS KNOWN

**SECTION 11. TOXICOLOGICAL INFORMATION**

**INFORMATION ON TOXICOLOGICAL EFFECTS**

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

NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

ON THE SKIN: MAY CAUSE SKIN IRRITATION  
SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN  
ON THE EYE: MAY CAUSE EYE IRRITATION  
INHALATION: MAY IRRITATE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.  
MAY BE HARMFUL IF INHALED  
INGESTION: MAY BE HARMFUL IF SWALLOWED  
NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO  
0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY  
IARC, ACGIH, NTP OR OSHA

## **SECTION 12. ECOLOGICAL INFORMATION**

NO DATA AVAILABLE

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **WASTE TREATMENT METHODS**

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

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

### **UNITED STATES REGULATORY INFORMATION**

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

NONE OF THE INGREDIENTS IS LISTED.

**SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA)  
SECTION 313:**



THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

**SARA 311/312 HAZARDS**

NO SARA HAZARDS

**MA, PA AND NJ RIGHT TO KNOW COMPONENTS**

NONE LISTED

**CALIFORNIA PROP. 65 COMPONENTS**

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

**CANADA REGULATORY INFORMATION**

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

**EU REGULATORY INFORMATION**

THIS PRODUCT IS NOT CLASSIFIED ACCORDING TO EU LEGISLATION.

**SECTION 16. OTHER INFORMATION**

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

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REVISED 7.23.18

## MATERIAL SAFETY DATA SHEET

### SECTION 1. CHEMICAL IDENTIFICATION

**CATALOG/PRODUCT#:** GL50

**NAME:** PRECISION RED ADVANCED PROTEIN ASSAY

**USE:** LABORATORY CHEMICALS

**MANUFACTURER/SUPPLIER:**

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

**EMERGENCY CONTACT:**

24H EMERGENCY TOLL-FREE NUMBER: CALL INFOTRAC DAY OR NIGHT  
WITHIN USA AND CANADA: 1-800-535-5053  
OUTSIDE USA AND CANADA: +1 352-323-3500 (COLLECT CALLS ACCEPTED)

### SECTION 2. HAZARDS IDENTIFICATION

NOTE: PRODUCT CONTAINS 4% METHANOL. THIS CONCENTRATION IS NOT CONSIDERED HAZARDOUS DUE TO THE ABSENCE OF A FLASHPOINT AT THIS LOW CONCENTRATION.

THE INFORMATION BELOW IS BASED ON A METHANOL CONCENTRATION WITH A FLASHPOINT AND CONCENTRATION >4%. APPROPRIATE LABORATORY PRACTICES AND CAUTION SHOULD STILL BE EXERCISED.

#### EMERGENCY OVERVIEW

**OSHA HAZARDS**

TARGET ORGAN EFFECT, HARMFUL BY INHALATION, HARMFUL BY INGESTION, HARMFUL BY SKIN ABSORPTION, IRRITANT

**TARGET ORGANS**

EYES, KIDNEY, LIVER, HEART, CENTRAL NERVOUS SYSTEM, EYES, KIDNEY, LIVER, HEART

**GHS CLASSIFICATION**

ACUTE TOXICITY, ORAL (CATEGORY 3)  
ACUTE TOXICITY, INHALATION (CATEGORY 3)  
ACUTE TOXICITY, DERMAL (CATEGORY 3)  
SKIN IRRITATION (CATEGORY 2)

EYE IRRITATION (CATEGORY 2A)  
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 1)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**



**PICTOGRAM**

**SIGNAL WORD** DANGER

**HAZARD STATEMENT(S)**

H301+H311 TOXIC IF SWALLOWED OR IN CONTACT WITH SKIN  
H315 CAUSES SKIN IRRITATION  
H319 CAUSES SERIOUS EYE IRRITATION  
H331 TOXIC IF INHALED  
H370 CAUSES DAMAGE TO ORGANS

**PRECAUTIONARY STATEMENT(S)**

P260 DO NOT BREATHE DUST/FUME/GAS/MIST/VAPORS/SPRAY  
P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING  
P301+P310 IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER OR DOCTOR PHYSICIAN  
P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES IF PRESENT AND EASY TO DO. CONTINUE RINSING  
P307+P311 IF EXPOSED: CALL A POISON CENTER OR DOCTOR/PHYSICIAN

**NFPA RATINGS (SCALE 0-4)**

FIRE = 2  
HEALTH = 2  
REACTIVITY = 0

**HMIS CLASSIFICATION**

FIRE = 2  
HEALTH = 2  
CHRONIC HEALTH HAZARD = \*  
PHYSICAL HAZARDS = 0

**POTENTIAL HEALTH EFFECTS**

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

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**DESCRIPTION: MIXTURE OF THE SUBSTANCES LISTED BELOW WITH HARMLESS CHEMICALS (<1%) THAT ARE PROPRIETARY**

METHYL ALCOHOL	CAS#: 67-56-1 EINECS: 200-659-6	4%
WATER	CAS#: 7732-18-5 EINECS: 231-791-2	96%

#### SECTION 4. FIRST-AID MEASURES

**GENERAL ADVICE:** CONSULT A PHYSICIAN AND SHOW THIS MSDS TO THE PHYSICIAN

**AFTER INHALATION:** IF BREATHED IN, SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN

**AFTER SKIN CONTACT:** IMMEDIATELY RINSE WITH SOAP AND PLENTY OF WATER. TAKE VICTIM IMMEDIATELY TO HOSPITAL. CONSULT A PHYSICIAN

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

**AFTER SWALLOWING:** DO NOT INDUCE VOMITING. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CALL FOR PHYSICIAN

#### SECTION 5. FIREFIGHTING MEASURES

##### CONDITIONS OF FLAMMABILITY

FLAMMABLE IN THE PRESENCE OF A SOURCE OF IGNITION WHEN THE TEMPERATURE IS ABOVE THE FLASH POINT. KEEP AWAY FROM HEAT/SPARKS/OPEN FLAME/HOT SURFACE. NO SMOKING.

##### EXTINGUISHING MEDIA

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

##### ADVICE FOR FIREFIGHTERS

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

##### HAZARDOUS COMBUSTION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: CARBON OXIDES

**LOWER EXPLOSIVE LIMIT (LEL) FOR METHANOL IS 6%**

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

##### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

**PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES. AVOID BREATHING VAPORS, MIST, OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION.

**ENVIRONMENTAL PRECAUTIONS:** DILUTE WITH PLENTY OF WATER. DO NOT ALLOW TO ENTER SEWERS/SURFACE OR GROUND WATER. PREVENT FURTHER LEAKAGE OR SPILLS IF SAFE TO DO SO

**METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:** ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). USE NEUTRALIZING AGENT. 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:** AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOR OR MIST. ENSURE GOOD VENTILATION AND EXHAUSTION AT THE WORKPLACE.

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** KEEP AWAY FROM SOURCES OF IGNITION. NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE.

**REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES:** STORE AT 2-8°C. **INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** NO SPECIAL PRECAUTIONS ARE NECESSARY. KEEP TIGHTLY CLOSED.

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

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:**

67-56-1 METHANOL

<b>VALUE</b>	<b>CONTROL PARAMETERS</b>	<b>BASIS</b>
TWA	200 PPM	USA. ACGIH THRESHOLD LIMIT VALUES
STEL	250 PPM	USA. ACGIH THRESHOLD LIMIT VALUES
TWA	200 PPM, 260 mg/m <sup>3</sup>	USA. OSHA-TABLE Z-1 LIMITS FOR AIR CONTAMINANTS-1910.1000
STEL	250 PPM, 325 mg/m <sup>3</sup>	USA. OSHA-TABLE Z-1 LIMITS FOR AIR CONTAMINANTS-1910.1000
TWA	200 PPM, 260 mg/m <sup>3</sup>	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA)-TABLE Z-1 LIMITS FOR AIR CONTAMINANTS
TWA	200 PPM, 260 mg/m <sup>3</sup>	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
ST	250 PPM, 325 mg/m <sup>3</sup>	USA. NIOSH RECOMMENDED EXPOSURE LIMITS

### **PERSONAL PROTECTIVE EQUIPMENT**

#### **GENERAL PROTECTIVE AND HYGIENIC MEASURES**

KEEP AWAY FROM FOODSTUFFS, BEVERAGES AND FEED

WASH HANDS BEFORE BREAKS AND AT THE END OF WORK

IMMEDIATELY REMOVE ALL SOILED AND CONTAMINATED CLOTHING

AVOID CONTACT WITH THE EYES, SKIN, AND CLOTHING

### **BREATHING EQUIPMENT**

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE AXBEK (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.

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

COLOR: DARK RED

ODOR: DISTINCTIVE

pH-VALUE AT 20°C: 3.0

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: UNDETERMINED

BOILING POINT/BOILING RANGE: UNDETERMINED

FLASH POINT: NOT DETERMINED.

SELF-IGNITING: PRODUCT IS NOT SELF-IGNITING

DANGER OF EXPLOSION: PRODUCT IS NOT EXPLOSIVE. HOWEVER, FLAMMABLE VAPOR BUILD-UP IS POSSIBLE. KEEP AREA WELL-VENTILATED.

DENSITY: NOT DETERMINED

SOLUBILITY IN/MISCIBILITY WITH WATER: FULLY MISCIBLE

SOLVENT CONTENT:

ORGANIC SOLVENTS: 4%

WATER: 96%

SEE SECTION 10.

## SECTION 10. STABILITY AND REACTIVITY

### REACTIVITY

#### CHEMICAL STABILITY

STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

**THERMAL DECOMPOSITION/CONDITIONS AND MATERIALS TO BE AVOIDED:** NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS. AVOID HEAT, SPARKS, AND FLAMES AND EXTREMES OF TEMPERATURE AND DIRECT SUNLIGHT. AVOID CHLORIDES, ACID ANHYDRIDES, OXIDIZING AGENTS, ALKALI METALS, REDUCING AGENTS, AND ACIDS.

**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:

PRIMARY IRRITANT EFFECT:

ON THE SKIN: CAUSTIC EFFECT ON SKIN AND MUCOUS MEMBRANES

ON THE EYE: STRONG CAUSTIC EFFECT.

SENSITIZATION: NO SENSITIZING EFFECTS KNOWN

ADDITIONAL TOXICOLOGICAL INFORMATION:

SWALLOWING WILL LEAD TO A STRONG CAUSTIC EFFECT ON MOUTH AND THROAT AND TO THE DANGER OF PERFORATION OF ESOPHAGUS AND STOMACH.

LD/LC50 VALUES FOR HAZARDOUS COMPONENTS PER OSHA CRITERIA:

67-56-1 METHANOL

ORAL	LD50	5628 MG/KG (RAT)
DERMAL	LD50	20000 MG/KG (RAT)
DERMAL	LD50	15,800 MG/KG (RABBIT)
INHALATION	LC50	64000 PPM (RAT) 4 HOURS
INHALATION	LC50	87.6 mg/l (RAT) 4 HOURS

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.

**SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (GHS)**  
CAUSES DAMAGE TO ORGANS

**SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (GHS)**  
NO DATA AVAILABLE

**POTENTIAL HEALTH EFFECTS**

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

**SECTION 12. ECOLOGICAL INFORMATION**

**TOXICITY**

**TOXICITY TO FISH**

LC50 - ONCORHYNCHUS MYKISS (RAINBOW TROUT) - 19,000 mg/l - 96 HOURS  
MORTALITY LC50 - LEPOMIS MACROCHIRUS (BLUEGILL) - 15,400 mg/l - 96 HOURS

**TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES**

EC50 - DAPHNIA MAGNA (WATER FLEA) - 24,500 mg/l - 48 HOURS  
EC100 - DAPHNIA MAGNA (WATER FLEA) - 10,000 mg/l - 24 HOURS

**TOXICITY TO ALGAE**

GROWTH INHIBITION EC50 - SCENEDESMUS CAPRICORNUTUM (FRESH WATER ALGAE) - 22,000 mg/l - 96 HOURS

**GENERAL NOTES:**

DO NOT POUR UNDILUTED PRODUCT OR LARGE QUANTITIES INTO DRAINS OR ALLOW TO REACH GROUND WATER, WATER COURSE OR SEWAGE SYSTEM.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**WASTE TREATMENT METHODS**

RECOMMENDATION: MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEM.

UNCLEANED PACKAGINGS:

RECOMMENDATION: DISPOSAL MUST BE MADE ACCORDING TO OFFICIAL REGULATIONS. USE A LICENSED DISPOSAL COMPANY.

RECOMMENDED CLEANSING AGENT: WATER, IF NECESSARY WITH CLEANSING AGENTS. HAND OVER TO HAZARDOUS WASTE DISPOSERS.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

**SECTION 14. TRANSPORT INFORMATION**



NOTE: PRODUCT CONTAINS 4% METHANOL. THIS CONCENTRATION IS NOT CONSIDERED HAZARDOUS DUE TO THE ABSENCE OF A FLASHPOINT AT THIS LOW CONCENTRATION.

SHIPPED IN A SEALED BOTTLE WITH THICK ABSORBENT PAPER.

IF METHANOL CONTENT WERE TO BE OF A SUFFICIENT CONCENTRATION TO HAVE A FLASHPOINT AND BE CONSIDERED HAZARDOUS, TRANSPORT INFORMATION WOULD BE:

DOT CLASSIFICATION: CLASS 3 (6.1): FLAMMABLE LIQUID, TOXIC  
UN NUMBER: 1230  
PACKING GROUP: II

IATA-DGR CLASSIFICATION: CLASS 3 (6.1): FLAMMABLE LIQUID, TOXIC  
UN NUMBER: 1230  
PACKING GROUP: II

IMDG CLASSIFICATION: CLASS 3 (6.1): FLAMMABLE LIQUID, TOXIC  
UN NUMBER: 1230  
PACKING GROUP: II

## **SECTION 15. REGULATORY INFORMATION**

### **OSHA HAZARDS**

TARGET ORGAN EFFECT, HARMFUL BY INHALATION, HARMFUL BY INGESTION,  
HARMFUL BY SKIN ABSORPTION, IRRITANT

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

NONE OF THE INGREDIENTS IS LISTED.

### **SARA 313 COMPONENTS**

THE FOLLOWING COMPONENTS ARE SUBJECT TO REPORTING LEVELS ESTABLISHED BY  
SARA TITLE III, SECTION 313

METHANOL CAS # 67-56-1

### **SARA 311/312 HAZARDS**

ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD

## **EU REGULATORY INFORMATION**

THIS MATERIAL IS CLASSIFIED AS DANGEROUS ACCORDING TO DIRECTIVE 67/548.EEC  
AND ITS AMENDMENTS

### **TSCA (TOXIC SUBSTANCES CONTROL ACT):**

ALL INGREDIENTS ARE LISTED.

### **CARCINOGENIC CATEGORIES**

#### **EPA (ENVIRONMENTAL PROTECTION AGENCY)**

NONE OF THE INGREDIENTS IS LISTED.

**IARC (INTERNATIONAL AGENCY FOR RESEARCH ON CANCER)**

NONE OF THE INGREDIENTS IS LISTED.

**TLV (THRESHOLD LIMIT VALUE ESTABLISHED BY ACGIH)**

NONE OF THE INGREDIENT IS LISTED.

**MAK (GERMAN MAXIMUM WORKPLACE CONCENTRATION)**

NONE OF THE INGREDIENTS IS LISTED.

**NIOSH-CA (NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH)**

NONE OF THE INGREDIENTS IS LISTED.

**OSHA-CA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)**

NONE OF THE INGREDIENTS IS LISTED.

**MARKINGS ACCORDING TO EU GUIDELINES:**

NOT HARMFUL

**CODE LETTER AND HAZARD DESIGNATION OF PRODUCT:**

XN HARMFUL

**HAZARD-DETERMINING COMPONENTS OF LABELING:**

METHANOL

**CANADA REGULATORY INFORMATION**

WHMIS CLASSIFICATION: CLASS D DIV 1B, CLASS D DIV 2B; CLASS B DIV 2

**STATE REGULATIONS**

MA, NY, NJ, PA, FL

METHANOL IS LISTED (CAS # 67-56-1)

**CALIFORNIA PROP. 65 COMPONENTS**

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

**SECTION 16. OTHER INFORMATION**

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

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**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** PIC02  
**NAME:** PROTEASE INHIBITOR COCKTAIL  
**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)  
ACUTE TOXICITY, ORAL (CATEGORY 5)

PICTOGRAM 

SIGNAL WORD: WARNING

HAZARD STATEMENTS  
H303 MAY BE HARMFUL IF SWALLOWED  
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  
P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES.  
REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.

**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 TRACT 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**

BENZAMIDINIUM CHLORIDE	CAS#: 206752-36-5 EC#: 216-795-4
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SYNONYMS: AMIDINOBENZENE HYDROCHLORIDE, BENZAMIDINIUM CHLORIDE, BENZENECARBOXIMIDAMIDE HYDROCHLORIDE

FORMULA:  $C_7H_8N_2 \cdot ClH \cdot H_2O$

MOLECULAR WEIGHT: 156.61 g/mol

PEPSTATIN A	CAS#: 26305-03-3 EC#: 247-600-0
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FORMULA:  $C_{34}H_{63}N_5O_9 \cdot C_{34}H_{63}N_5O_9$

MOLECULAR WEIGHT: 685.89 g/mol

LEUPEPTIN HYDROCHLORIDE	CAS#: 24125-16-4 EC#: NONE
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FORMULA:  $C_{20}H_{38}N_6O_4 \cdot HCl$

MOLECULAR WEIGHT: 463.01 g/mol

$N\alpha$ -p-TOSYL-L-ARGININE METHYL ESTER HYDROCHLORIDE	CAS#: 1784-03-8 EC#: 217-235-1
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SYNONYMS: TAME HYDROCHLORIDE

FORMULA:  $C_{14}H_{22}N_4O_4S \cdot HCl$

MOLECULAR WEIGHT: 378.87 g/mol

**SECTION 4. FIRST-AID MEASURES**

**GENERAL ADVICE:** CONSULT A PHYSICIAN. SHOW THIS SAFETY DATASHEET TO THE PHYSICIAN. MOVE OUT OF DANGEROUS AREA.

**AFTER INHALATION:** SUPPLY FRESH AIR. 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 RE-USE.

## **SECTION 5. FIREFIGHTING MEASURES**

**CONDITIONS OF FLAMMABILITY:** NOT FLAMMABLE OR COMBUSTIBLE

### **EXTINGUISHING MEDIA**

**SUITABLE EXTINGUISHING AGENTS:** CARBON DIOXIDE, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR WATER SPRAY.

### **ADVICE FOR FIREFIGHTERS**

**PROTECTIVE EQUIPMENT:** WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIRE FIGHTING IF NECESSARY

**HAZARDOUS COMBUSTION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: CARBON OXIDES, NITROGEN OXIDES, HYDROGEN CHLORIDE GAS

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY**

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

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

**METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:** IN POWDER FORM, SWEEP UP AND SHOVEL. AFTER 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.

**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 CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. 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 DRY AND WELL-VENTILATED PLACE.

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

NO SUBSTANCES ARE PRESENT THAT REQUIRE MONITORING

### **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. DO NOT BREATHE DUST.

#### **BREATHING EQUIPMENT**

FOR SHORT TERM FILTER DEVICE TO PROTECT FROM NUISANCE LEVELS OF DUST, USE TYPE N95 OR TYPE P1 DUST MASKS. FOR HIGHER LEVEL PROTECTION, USE TYPE OV/AG/P99 OR ABEK-P2 RESPIRATOR CARTRIDGES.

#### **PROTECTION OF HANDS**

##### **PROTECTIVE GLOVES.**

THE GLOVE MATERIAL HAS TO BE IMPERMEABLE AND RESISTANT TO THE PRODUCT/SUBSTANCE/PREPARATION. 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

COLOR: CLEAR

pH: NO DATA AVAILABLE

MELTING POINT/MELTING RANGE: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: NO DATA AVAILABLE

IGNITION TEMPERATURE: NO DATA AVAILABLE

LOWER EXPLOSIVE LIMIT: NO DATA AVAILABLE

UPPER EXPLOSIVE LIMIT: NO DATA AVAILABLE

VAPOR PRESSURE: NO DATA AVAILABLE

DENSITY: NO DATA AVAILABLE

SOLUBILITY IN/MISCIBILITY WITH WATER: NO DATA AVAILABLE

## **SECTION 10. STABILITY AND REACTIVITY**

### **REACTIVITY**

**CHEMICAL STABILITY:** STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** AVOID ALKALINES, STRONG ACIDS AND STRONG BASES, STRONG OXIDIZING AGENTS

**POSSIBILITY OF HAZARDOUS REACTIONS:** NO DATA AVAILABLE

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: CARBON OXIDES, NITROGEN OXIDES, SULPHUR OXIDES, HYDROGEN CHLORIDE GAS

## **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: NO DATA AVAILABLE

#### **INHALATION LC50 AND DERMAL LD50:**

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**

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

**REPRODUCTIVE TOXICITY:**

NO DATA AVAILABLE

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

INHALATION - MAY CAUSE RESPIRATORY IRRITATION

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

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**POTENTIAL HEALTH EFFECTS**

INHALATION	MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT 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**

**TOXICITY**

NO DATA AVAILABLE

**PERSISTENCE AND DEGRADABILITY**

NO DATA AVAILABLE

**BIOACCUMULATIVE POTENTIAL**

NO DATA AVAILABLE

**MOBILITY IN SOIL**

NO DATA AVAILABLE

**PBT AND vPvB ASSESSMENT**

NO DATA AVAILABLE

**SECTION 13. DISPOSAL CONSIDERATIONS**



## **WASTE TREATMENT METHODS**

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

DISPOSE OF CONTAMINATED PACKAGING AS UNUSED PRODUCT

## **SECTION 14. TRANSPORT INFORMATION**

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

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

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

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

## **SECTION 15. REGULATORY INFORMATION**

### **OSHA HAZARDS**

IRRITANT

### **DSL STATUS**

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

LEUPEPTIN HYDROCHLORIDE

CAS #: 24125-16-4

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

NONE OF THE INGREDIENTS ARE LISTED.

### **SARA 313 COMPONENTS:**

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**

BENZAMIDINIUM CHLORIDE	CAS #: 206752-36-5
PEPSTATIN A	CAS #: 26305-03-3
LEUPEPTIN HYDROCHLORIDE	CAS #: 24125-16-4
N $\alpha$ -p-TOSYL-L-ARGININE METHYL ESTER HYDROCHLORIDE	CAS#: 1784-03-8

## **CALIFORNIA PROP. 65 COMPONENTS**

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

## **SECTION 16. OTHER INFORMATION**

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

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