SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: BSA02

NAME: ACTIN POLYMERIZATION BUFFER (10X CONCENTRATION)

USE: LABORATORY CHEMICALS

MANUFACTURER/SUPPLIER:

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

EMERGENCY CONTACT:

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

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

THE ONLY HAZARDOUS REAGENT ABOVE 1% IS POTASSIUM CHLORIDE

OSHA HAZARDS
TARGET ORGAN EFFECT

TARGET ORGANS
HEART

GHS CLASSIFICATION
ACUTE TOXICITY, ORAL (CATEGORY 5)
EYE IRRITATION (CATEGORY 2B)
ACUTE AQUATIC TOXICITY (CATEGORY 3)

SIGNAL WORD: WARNING

HAZARD PICTOGRAMS: NONE

HEALTH HAZARD STATEMENTS:

H303: MAY BE HARMFUL IF SWALLOWED
H320: CAUSES EYE IRRITATION
H402: HARMFUL TO AQUATIC LIFE

PRECAUTIONARY STATEMENTS:

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

POTENTIAL HEALTH EFFECTS

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

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

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

SECTION 4. FIRST-AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN IN CASE OF COMPLAINTS
AFTER SKIN CONTACT: IMMEDIATELY WASH SKIN WITH SOAP AND RINSE WITH COPIIOUS AMOUNTS OF WATER. CONSULT A PHYSICIAN
AFTER EYE CONTACT: RINSE OPENED EYE FOR AT LEAST 15 MINUTES UNDER RUNNING WATER. THEN CONSULT PHYSICIAN
AFTER SWALLOWING: WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CONSULT A PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.
SECTION 5.  FIREFIGHTING MEASURES

EXTINGUISHING MEDIA
SUITABLE EXTINGUISHING AGENTS: CARBON DIOXIDE, EXTINGUISHING POWDER OR WATER SPRAY.
ADVICE FOR FIREFIGHTERS
PROTECTIVE EQUIPMENT: MOUNT RESPIRATORY PROTECTIVE DEVICE
PREVENT CONTACT WITH SKIN AND EYES
HAZARDOUS COMBUSTION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS - HYDROGEN CHLORIDE GAS, POTASSIUM OXIDES
FURTHER INFORMATION: THE PRODUCT ITSELF DOES NOT BURN

SECTION 6.  ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, GLOVES. AVOID DUST FORMATION. AVOID BREATHING DUST, VAPORS, MIST, OR GAS. ENSURE ADEQUATE VENTILATION.
ENVIRONMENTAL PRECAUTIONS: DILUTE WITH PLENTY OF WATER. DO NOT ALLOW TO ENTER SEWERS/SURFACE OR GROUND WATER.
METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP: ABSORB WITH LIQUID-BINDING MATERIAL (SAND, DIATOMITE, ACID BINDERS, UNIVERSAL BINDERS, SAWDUST). IN LYOPHILIZED FORM, SWEEP UP WITHOUT CREATING DUST. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL. DISPOSE CONTAMINATED MATERIAL AS WASTE ACCORDING TO SECTION 13. ENSURE ADEQUATE VENTILATION.
REFERENCE TO OTHER SECTIONS: SEE SECTION 8 FOR INFORMATION ON PERSONAL PROTECTION EQUIPMENT. SEE SECTION 13 FOR DISPOSAL INFORMATION.

SECTION 7.  HANDLING AND STORAGE

HANDLING
PRECAUTIONS FOR SAFE HANDLING: ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE. WEAR APPROPRIATE PROTECTIVE CLOTHING (SEE SECTION 8). DO NOT RE-USE CONTAINER. AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED.
INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES: NO DATA AVAILABLE

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES STORAGE
REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPACLES: STORE AT 2-8°C. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. STORE DESICCATED.
FURTHER INFORMATION ABOUT STORAGE CONDITIONS: KEEP RECEPACLE TIGHTLY SEALED IN A DRY AND WELL-VENTILATED PLACE. HYGROSCOPIC.
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES

PERSONAL PROTECTIVE EQUIPMENT

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

BREATHING EQUIPMENT
USE A DUST MASK TYPE P95 OR OTHER SHORT TERM FILTER DEVICE: FILTER P1
DO NOT BREATHE. USE MECHANICAL EXHAUST SYSTEM

PROTECTION OF HANDS

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

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

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

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

EYE PROTECTION: TIGHTLY SEALED GOOGLES OR SAFETY GLASSES WITH SIDE-
SHIELDS

BODY PROTECTION: PROTECTIVE WORK CLOTHING

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES
GENERAL INFORMATION
FORM: SOLID (LYOPHILIZED POWDER)
CHANGE IN CONDITION
MELTING POINT/MELTING RANGE: NO DATA AVAILABLE
BOILING POINT/BOILING RANGE: NO DATA AVAILABLE
SECTION 10. STABILITY AND REACTIVITY

REACTIVITY
CHEMICAL STABILITY
STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

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

POSSIBILITY OF HAZARDOUS REACTIONS: NO DATA AVAILABLE

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

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

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

ACUTE TOXICITY
LD50 ORAL - NO DATA AVAILABLE
INHALATION LC50 - NO DATA AVAILABLE
DERMAL LD50 - NO DATA AVAILABLE

SKIN CORROSION/IRRITATION
NO DATA AVAILABLE

SERIOUS EYE DAMAGE/EYE IRRITATION
EYES -RABBIT- MILD EYE IRRITATION -24 H

RESPIRATORY OR SKIN SENSITIZATION
NO DATA AVAILABLE

NO DATA IS AVAILABLE REGARDING GERM CELL MUTAGENICITY, REPRODUCTIVE TOXICITY, TERATOGENICITY, SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE), ASPIRATION HAZARD, OR SYNERGISTIC EFFECTS.
NO COMPONENT OF THIS PRODUCT IS PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% THAT IS IDENTIFIED AS A PROBABLE, POSSIBLE OR CONFIRMED CARCINOGEN BY IARC, ACGIH, NTP OR OSHA.

POTENTIAL HEALTH EFFECTS

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

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

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

TOXICITY TO FISH  LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 880 mg/l - 96 h

MORTALITY NOEC - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 500 mg/l - 7 d

MORTALITY LOEC - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 1000 mg/l - 7 d

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES  EC50 - DAPHNIA MAGNA (WATER FLEA) - 83 mg/l - 48 h

NO ADDITIONAL DATA AVAILABLE

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

HARMFUL TO AQUATIC LIFE

SECTION 13. DISPOSAL CONSIDERATIONS

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

DISPOSE OF CONTAMINATED PACKAGING AS AN UNUSED PRODUCT

SECTION 14. TRANSPORT INFORMATION

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

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

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

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS
TARGET ORGAN EFFECT

UNITED STATES REGULATORY INFORMATION
SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA)

NONE OF THE INGREDIENTS IS LISTED.

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

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

SARA 311/312 HAZARDS
CHRONIC HEALTH HAZARD

PA AND NJ RIGHT TO KNOW COMPONENTS
POTASSIUM CHLORIDE CAS#: 7447-40-7

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

SECTION 16. OTHER INFORMATION

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

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