

MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG/PRODUCT#: ADV02

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

NO DATA AVAILABLE

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

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

NO DATA AVAILABLE

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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