

**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** ADV01

**NAME:** 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**

**EMERGENCY OVERVIEW**

**OSHA HAZARD**

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

**GHS CLASSIFICATION**

ACUTE TOXICITY: ORAL - CATEGORY 4  
ACUTE TOXICITY: SKIN - CATEGORY 4  
ACUTE TOXICITY: INHALATION - CATEGORY 4  
SKIN CORROSION/IRRITATION - CATEGORY 1B  
SERIOUS EYE DAMAGE/EYE IRRITATION - CATEGORY 1

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

CENTRAL NERVOUS SYSTEM, EYES, GASTROINTESTINAL TRACT, HEART, KIDNEYS, LIVER, RESPIRATORY TRACT AND SKIN - CATEGORY 2

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

**PICTOGRAM**



**SIGNAL WORD** DANGER

**HAZARD STATEMENT(S)**

H226 FLAMMABLE LIQUID AND VAPOR  
H302 HARMFUL IF SWALLOWED  
H312 HARMFUL IN CONTACT WITH SKIN  
H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE  
H332 HARMFUL IF INHALED  
H370 CAUSES DAMAGE TO ORGANS

**PRECAUTIONARY STATEMENT(S)**

P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES - NO SMOKING  
P260 DO NOT BREATHE DUST/FUME/GAS/MIST/VAPORS/SPRAY  
P264 WASH HANDS THOROUGHLY AFTER HANDLING  
P270 DO NOT EAT, DRINK, OR SMOKE WHEN USING THIS PRODUCT  
P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA  
P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION  
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

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

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

FIRE = 3  
HEALTH = 2  
REACTIVITY = 0

**HMIS CLASSIFICATION**

FIRE = 3  
HEALTH = 2  
CHRONIC HEALTH HAZARD = \*  
PHYSICAL HAZARDS = 0

**POTENTIAL HEALTH EFFECTS**

INHALATION TOXIC IF INHALED. CAUSES RESPIRATORY TRACT DAMAGE/IRRITATION

SKIN	TOXIC IF ABSORBED THROUGH SKIN. CAUSES SKIN DAMAGE/IRRITATION
EYES	CAUSES EYE DAMAGE/IRRITATION
INGESTION	TOXIC IF SWALLOWED

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### DESCRIPTION: MIXTURE OF THE SUBSTANCES LISTED BELOW WITH HARMLESS ADDITIONS

PHOSPHORIC ACID	CAS#: 7664-38-2	25%
	EINECS: 231-633-2	
METHYL ALCOHOL	CAS#: 67-56-1	25%
	EINECS: 200-659-6	
WATER	CAS#: 7732-18-5	50%
	EINECS: 231-791-2	

### SECTION 4. FIRST-AID MEASURES

**AFTER INHALATION:** SUPPLY FRESH AIR. GET MEDICAL ATTENTION IMMEDIATELY. CALL POISON CENTER OR PHYSICIAN.

**AFTER SKIN CONTACT:** GET MEDICAL ATTENTION IMMEDIATELY. IMMEDIATELY RINSE WITH SOAP AND WATER. CALL POISON CENTER OR PHYSICIAN.

**AFTER EYE CONTACT:** GET MEDICAL ATTENTION IMMEDIATELY. RINSE OPENED EYE FOR SEVERAL MINUTES UNDER RUNNING WATER. CHECK FOR AND REMOVE ANY CONTACT LENSES. RINSE FOR AT LEAST 10 MIN.

**AFTER SWALLOWING:** 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 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

FLAMMABLE CODE 3 UN2924

**HAZARDOUS DECOMPOSITION PRODUCTS MAY INCLUDE:** CARBON DIOXIDE, CARBON MONOXIDE, PHOSPHORUS OXIDES

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** WEAR PROTECTIVE CLOTHING, RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER 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). 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.

AVOID METAL BRUSHES AND SCOOPS.

## SECTION 7. HANDLING AND STORAGE

### HANDLING

**PRECAUTIONS FOR SAFE HANDLING:** ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE.

**INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:** KEEP IGNITION SOURCES AWAY-DO NOT SMOKE. PROTECT AGAINST ELECTROSTATIC CHARGES.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES  
STORAGE

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

**INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:** DO NOT STORE TOGETHER WITH OXIDIZING MATERIALS.

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

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL SYSTEMS: NO FURTHER DATA; SEE ITEM 7.

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

7664-38-2 PHOSPHORIC ACID

PEL	1 mg/m <sup>3</sup>
REL	SHORT-TERM VALUE: 3 mg/m <sup>3</sup> LONG-TERM VALUE: 1 mg/m <sup>3</sup>
TLV	SHORT-TERM VALUE: 3 mg/m <sup>3</sup> LONG-TERM VALUE: 1 mg/m <sup>3</sup>
WEL	SHORT-TERM VALUE: 2 mg/m <sup>3</sup> LONG-TERM VALUE: 1 mg/m <sup>3</sup>

67-56-1 METHANOL

PEL	260 mg/m <sup>3</sup> , 200 PPM
REL	SHORT-TERM VALUE: 325 mg/m <sup>3</sup> , 250 PPM

TLV                   LONG-TERM VALUE: 260 mg/m<sup>3</sup>, 200 PPM  
                          SHORT-TERM VALUE: 328 mg/m<sup>3</sup>, 250 PPM  
                          LONG-TERM VALUE: 262 mg/m<sup>3</sup>, 200 PPM  
                          SKIN; BEI

#### **PERSONAL PROTECTIVE EQUIPMENT**

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

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

##### **BREATHING EQUIPMENT**

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

##### **PROTECTION OF HANDS**

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

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

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

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

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

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

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

NEOPRENE GLOVES

**EYE PROTECTION:** TIGHTLY SEALED GOGGLES

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

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

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

#### **GENERAL INFORMATION**

FORM: LIQUID

COLOR: DARK RED

ODOR: DISTINCTIVE

pH-VALUE AT 20°C: <1

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: UNDETERMINED

BOILING POINT/BOILING RANGE: UNDETERMINED

FLASH POINT: 40-60°C.

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: 24%

WATER: 50%

SEE SECTION 10.

## SECTION 10. STABILITY AND REACTIVITY

### REACTIVITY

#### CHEMICAL STABILITY

STABLE BETWEEN -10°C AND ROOM TEMPERATURE 24°C.

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

**POSSIBILITY OF HAZARDOUS REACTIONS:** UNDER NORMAL CONDITIONS OF STORAGE AND USE, HAZARDOUS REACTIONS WILL NOT OCCUR

**HAZARDOUS DECOMPOSITION PRODUCTS:** NO DANGEROUS PRODUCTS KNOWN WHEN STORED AND USED UNDER NORMAL CONDITIONS

## 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:

THE PRODUCT SHOWS THE FOLLOWING DANGERS ACCORDING TO THE CALCULATED METHOD OF THE GENERAL EU CLASSIFICATION GUIDELINES FOR PREPARATIONS AS ISSUED IN THE LATEST VERSION:

CORROSIVE

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)

## SECTION 12. ECOLOGICAL INFORMATION

### TOXICITY

ACQUATIC TOXICITY: NO FURTHER RELEVANT INFORMATION AVAILABLE

**GENERAL NOTES:**

WATER HAZARD CLASS 1 (GERMAN REGULATION) (SELF-ASSESSMENT):  
SLIGHTLY HAZARDOUS FOR WATER. 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.

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

HAND OVER TO HAZARDOUS WASTE DISPOSERS.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14. TRANSPORT INFORMATION**

SHIPPED IN A SEALED BOTTLE WITH VERMICULITE AS ABSORBENT.

**LAND TRANSPORT ADR/RID (CROSS-BORDER)**

ADR/RID CLASS:	3 FLAMMABLE LIQUIDS
DANGER CODE (KEMLER):	3,3,8,
UN NUMBER:	2924
PACKAGING GROUP:	I
LABEL:	3 + 8
UN PROPER SHIPPING NAME:	2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL (METHYL ALCOHOL), PHOSPHORIC ACID, SOLUTION)
TUNNEL RESTRICTION CODE:	D/E

**MARITIME TRANSPORT IMDG:**

IMDG CLASS:	3
UN NUMBER:	2924
LABEL:	3 + 8
PACKAGING GROUP:	I
EMS NUMBER:	F-A, F-E, S-A, S-C
MARINE POLLUTANT:	NO
PROPER SHIPPING NAME:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL (METHYL ALCOHOL), PHOSPHORIC ACID, SOLUTION)

**AIR TRANSPORT ICAO-TI AND IATA-DGR:**

ICAO/IATA CLASS:	3
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UN/ID NUMBER: 2924  
LABEL: 3 + 8  
PACKAGING GROUP: I  
PROPER SHIPPING NAME: FLAMMABLE LIQUID, CORROSIVE, N.O.S.  
(METHANOL, PHOSPHORIC ACID, SOLUTION)

UN "MODEL REGULATION": UN2924, FLAMMABLE LIQUID, CORROSIVE,  
N.O.S., 3 (8), I

**SPECIAL PRECAUTIONS FOR USER:** WARNING: FLAMMABLE LIQUIDS

## **SECTION 15. REGULATORY INFORMATION**

### **SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR SUBSTANCE OR MIXTURE**

#### **NATIONAL REGULATIONS TECHNICAL INSTRUCTIONS (AIR):**

<u>CLASS</u>	<u>SHARE IN %</u>
NK	15-30

WATER HAZARD CLASS: WATER HAZARD CLASS 1 (SELF-ASSESSMENT):  
SLIGHTLY HAZARDOUS FOR WATER.

CHEMICAL SAFETY ASSESSMENT: A CHEMICAL SAFETY ASSESSMENT HAS NOT  
BEEN CARRIED OUT.

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

NONE OF THE INGREDIENTS IS LISTED.

#### **SECTION 311/312:**

IMMEDIATE (ACUTE) HEALTH HAZARD

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

67-56-1	METHANOL
7664-38-2	PHOSPHORIC ACID

#### **STATE REGULATIONS**

MA, NY, NJ, PA

METHANOL (CAS # 67-56-1) AND PHOSPHORIC ACID (CAS # 7664-38-2) ARE LISTED

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

WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF  
CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.



**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:**  
THE PRODUCT HAS BEEN CLASSIFIED AND MARKED IN ACCORDANCE WITH EU  
DIRECTIVES/ORDINANCE ON HAZARDOUS MATERIALS

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

**HAZARD-DETERMINING COMPONENTS OF LABELING:**  
METHANOL

## **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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