

**MATERIAL SAFETY DATA SHEET**

**SECTION 1. CHEMICAL IDENTIFICATION**

**CATALOG/PRODUCT#:** PHDG1

**NAME:** ACTI-STAIN 488 FLUORESCENT PHALLOIDIN, *Amanita phalloides*

**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 HAZARDS**

HIGHLY TOXIC BY INHALATION, HIGHLY TOXIC BY INGESTION, HIGHLY TOXIC BY SKIN ABSORPTION

**TARGET ORGANS**

LIVER, KIDNEY

**GHS CLASSIFICATION**

ACUTE TOXICITY, ORAL (CATEGORY 2)  
ACUTE TOXICITY, INHALATION (CATEGORY 2)  
ACUTE TOXICITY, DERMAL (CATEGORY 2)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

**PICTOGRAM**



**SIGNAL WORD**

DANGER

**HAZARD STATEMENTS**

H300

HARMFUL IF SWALLOWED

H310 + H330

TOXIC IF IN CONTACT WITH SKIN OR IF INHALED

**PRECAUTIONARY STATEMENTS**

P260 DO NOT BREATHE DUST / FUME / GAS / MIST / VAPORS / SPRAY  
P262 DO NOT GET IN EYES OR ON SKIN OR CLOTHING  
P264 WASH HANDS THOROUGHLY AFTER HANDLING  
P280 WEAR PROTECTIVE GLOVES / PROTECTIVE CLOTHING  
P284 WEAR RESPIRATORY PROTECTION  
P302 + P350 IF ON SKIN: GENTLY WASH WITH PLENTY OF SOAP AND WATER  
P304 + P340 IF INHALED, REMOVE TO FRESH AIR  
P310 IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN  
P501 DISPOSE OF CONTENTS IN AN APPROVED WASTE SITE

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

FIRE = 0  
HEALTH = 4  
REACTIVITY = 0

**HMIS RATINGS**

HEALTH = 3  
FIRE = 0  
REACTIVITY = 0

**POTENTIAL HEALTH EFFECTS**

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

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

<u>CAS#</u>	<u>EC#</u>	<u>INDEX#</u>	<u>CONCENTRATION</u>
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PHALLOIDIN-ACTI-STAIN 488 CONJUGATE FROM *Amanita phalloides*

**SECTION 4. FIRST-AID MEASURES**

**GENERAL ADVICE:** CONSULT A PHYSICIAN. SHOW THIS MSDS TO THE DOCTOR. MOVE OUT OF DANGEROUS AREA.  
**AFTER INHALATION:** SUPPLY FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT PHYSICIAN  
**AFTER SKIN CONTACT:** IMMEDIATELY WASH SKIN WITH SOAP AND RINSE WITH COPIOUS AMOUNTS OF WATER. TRANSPORT VICTIM IMMEDIATELY TO HOSPITAL. 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. CALL FOR PHYSICIAN

WASH CONTAMINATED CLOTHING BEFORE REUSE.

## **SECTION 5. FIREFIGHTING MEASURES**

### **CONDITIONS OF FLAMMABILITY**

NOT FLAMMABLE OR COMBUSTIBLE

### **EXTINGUISHING MEDIA**

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

### **ADVICE FOR FIREFIGHTERS**

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

**HAZARDOUS COMBUSTION PRODUCTS:** HAZARDOUS DECOMBUSTION PRODUCTS FORMED UNDER FIRE CONDITIONS - CARBON OXIDES, NITROGEN OXIDES (NO<sub>x</sub>), SULPHUR OXIDES

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

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

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

**ENVIRONMENTAL PRECAUTIONS:** PREVENT FURTHER LEAKAGE OR SPILLAGE. DO NOT ALLOW TO ENTER DRAINS, SEWERS/SURFACE OR GROUND WATER.

**METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:** PICK UP AND ARRANGE DISPOSAL 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:** 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. EMPLOY NORMAL MEASURES FOR PREVENTIVE FIRE PROTECTION.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES  
STORAGE

**REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES:** STORE AT -20°C. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. STORE DESICCATED.

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

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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL 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**

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE, USE A FULL-FACE PARTICLE 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 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. 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:** FACE SHIELD AND TIGHTLY SEALED GOGGLES

**BODY PROTECTION:** PROTECTIVE WORK CLOTHING

**HYGIENE MEASURES:** AVOID CONTACT WITH SKIN, EYES AND CLOTHING. WASH HANDS BEFORE BREAKS AND IMMEDIATELY AFTER HANDLING THE PRODUCT.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

#### GENERAL INFORMATION

FORM: SOLID (LYOPHILIZED POWDER)

pH:	NO DATA AVAILABLE
MELTING POINT/MELTING RANGE:	NO DATA AVAILABLE
BOILING POINT/BOILING RANGE:	NO DATA AVAILABLE
FLASH POINT:	NO DATA AVAILABLE
SELF-IGNITING:	NO DATA AVAILABLE
DANGER OF EXPLOSION:	NO DATA AVAILABLE
DENSITY:	NO DATA AVAILABLE
SOLUBILITY IN/MISCIBILITY WITH WATER:	NO DATA AVAILABLE

## SECTION 10. STABILITY AND REACTIVITY

### REACTIVITY

#### CHEMICAL STABILITY

STABLE WHEN STORED AS DIRECTED

**THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED:** STRONG OXIDIZING AGENTS

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

**HAZARDOUS DECOMPOSITION PRODUCTS:** HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS: CARBON OXIDES, NITROGEN OXIDES (NO<sub>x</sub>), SULPHUR OXIDES

## 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.

### SIGNS AND SYMPTOMS OF EXPOSURE

THE PATHOLOGICAL FINDING IN FATALITIES FROM MUSHROOM POISONING ARE FATTY DEGENERATION OF THE LIVER, KIDNEYS, HEART AND SKELETAL MUSCLES

### POTENTIAL HEALTH EFFECTS

<b>INHALATION</b>	MAY BE FATAL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION
<b>SKIN</b>	MAY BE FATAL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION
<b>EYES</b>	MAY CAUSE EYE IRRITATION
<b>INGESTION</b>	MAY BE FATAL IF SWALLOWED

**TARGET ORGANS: LIVER, KIDNEY**

**CHRONIC EXPOSURE**

**IARC:** 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:** 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 ACGIH

**NTP:** 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 NTP

**OSHA:** 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 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 MAERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**PRODUCT**

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

**CONTAMINATED PACKAGING**

DISPOSE OF 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.**

**IN CURRENT PACKAGING SIZE, NOT A HAZARDOUS SUBSTANCE BY DOT, IATA, AND IMDG**

**SUBSTANCES WITH AN LD50 VALUE  $\leq$  300 mg/kg (ORAL) OR  $\leq$  1000 mg/kg (DERMAL) OR AN LC50 VALUE  $\leq$  4000 ml/m<sup>3</sup> (INHALATION OF DUSTS OR MISTS). AMOUNT SHIPPED DOES NOT MEET CLASSIFICATION FOR HAZARD CLASS IF LESS THAN 1 GRAM WEIGHT OF PRODUCT WITHOUT CONTAINER. IF OVER 1 GRAM, THEN THE FOLLOWING APPLY.**

DOT CLASSIFICATION: UN # 2811, CLASS 6, PACKING GROUP II  
SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S.  
RHODAMINE PHALLOIDIN

IATA CLASSIFICATION: UN # 2811, CLASS 6, PACKING GROUP II  
SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S.  
RHODAMINE PHALLOIDIN

IMDG CLASSIFICATION: UN # 2811, CLASS 6, PACKING GROUP II  
SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S.  
RHODAMINE PHALLOIDIN

## **SECTION 15. REGULATORY INFORMATION**

### **OSHA HAZARDS**

HIGHLY TOXIC BY INHALATION, HIGHLY TOXIC BY INGESTION, HIGHLY TOXIC BY SKIN ABSORPTION

### **DSL STATUS**

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

PHALLOIDIN-TETRAMETHYLRHODAMINE B ISOTHIOCYANATE, *Amanita phalloides*

### **UNITED STATES REGULATORY INFORMATION**

#### **SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986-USA) SECTIONS 302/313**

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

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

#### **MASSACHUSETTS RIGHT TO KNOW COMPONENTS**

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT

#### **PENNSYLVANIA RIGHT TO KNOW COMPONENTS**

PHALLOIDIN-TETRAMETHYLRHODAMINE B ISOTHIOCYANATE, *Amanita phalloides*

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

PHALLOIDIN-TETRAMETHYLRHODAMINE B ISOTHIOCYANATE, *Amanita phalloides*

**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.

**CANADA REGULATORY INFORMATION**

WHMIS CLASSIFICATION: NOT CONTROLLED UNDER WHMIS.

**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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