

**E-64D**

**Section 1. Product and supplier information**

**1.1. Identification**

Product name: E-64D

Product catalog number: P1051-5, P1051-25

CAS#: 88321-09-9

**1.2. Recommended use and restrictions on use**

Research use only. Not for clinical or human use.

**1.3. Supplier**

Ubiquitin-Proteasome Biotechnologies (UBPBio), LLC

12635 E. Montview Blvd, STE100

Aurora, CO 80045

USA

Tel: 1-800-218-0982

Fax: 1-800-682-6801

Email: [info@ubpbio.com](mailto:info@ubpbio.com)

Web: [www.ubpbio.com](http://www.ubpbio.com)

**1.4. Emergency telephone number**

Emergency number: 1-800-218-0982

**SECTION 2: Hazard(s) identification**

**2.1. Classification of the substance or mixture**

**GHS-US classification**

Not a hazardous substance or mixture. Based on currently available data this substance or mixture is not classifiable according to GHS.

**2.2. GHS Label elements, including precautionary statements**

The product does not need to be labeled in accordance with EC directives or respective national laws.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, or skin absorption.

May cause eye, skin, or respiratory system irritation.

**SECTION 3: Composition/Information on ingredients**

**3.1. Substances**

Product Name: E-64D

Formula: C<sub>17</sub>H<sub>30</sub>N<sub>2</sub>O<sub>5</sub>

Molecular weight: 342.4 Da

**3.2. Mixtures**

**Name Common Name (Synonyms) Product identifier % GHS-US classification**

No GHS classification

**SECTION 4: First-aid measures**

**4.1. Description of first aid measures**

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

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First-aid measures after skin contact: Wash skin with plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur.

First-aid measures after eye contact: Hold eyelids apart and flush eyes with plenty of water. Have eyes examined and tested by medical professional.

First-aid measures after ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**SECTION 5: Fire-fighting measures**

**5.1. Suitable (and unsuitable) extinguishing media**

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.

**5.2. Specific hazards arising from the chemical**

Fire hazard: No data available.

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

**5.3. Special protective equipment and precautions for fire-fighters**

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**6.1.1. For non-emergency personnel**

Avoid breathing dust, and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

**6.1.2. For emergency responders**

Protective equipment: Do not attempt to take action without suitable protective equipment.

**6.2. Environmental precautions**

Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**

Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. Dispose of materials or solid residues at an authorized site.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling: Ensure good ventilation. Wear personal protective equipment.

Avoid breathing dust.

Hygiene measures: Do not eat, drink or smoke when using this product.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions: Keep container tightly closed. Store in a well-ventilated place. Keep at -20 - 80 °C for long-term storage.

**7.3. Specific end uses**

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Use in a laboratory fume hood where possible.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

Contains no substances with occupational exposure limit values.

**8.2. Appropriate engineering controls**

Appropriate engineering controls: Ensure good ventilation.

Environmental exposure controls: Avoid release to the environment.

**8.3. Individual protection measures/Personal protective equipment**

**Hand protection:** Protective gloves

**Eye protection:** Safety glasses

**Skin and body protection:** Wear suitable protective clothing

**Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state: Solid

Color: White powder

Odor: No data available

Odor threshold: No data available

pH: No data available

Melting point: 217.6 °C

Freezing point: No data available

Boiling point: 470.5 °C

Flash point: 238.1 °C

Relative evaporation rate (butyl acetate=1): No data available

Flammability (solid, gas): Not applicable.

Vapor pressure: No data available

Relative vapor density at 20 °C: No data available

Relative density: No data available

Solubility: up to 10 mg/ml in warm water, 70 mg/ml in DMSO

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

Explosion limits: No data available

Explosive properties: No data available

Oxidizing properties: No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

The product is non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reactions known under normal conditions of use.

**10.4. Conditions to avoid**

Heat and moisture.

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**10.5 Incompatible materials**

Strong acids/alkalis, strong oxidizing/reducing agents.

**10.6 Hazardous decomposition products**

Under fire conditions, may decompose and emit toxic fumes.

Other decomposition products - no data available

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute Toxicity**

No data available.

**Skin corrosion/irritation**

Classification criteria are not met based on available data

**Serious eye damage/irritation**

Classification criteria are not met based on available data

**Respiratory or skin sensitization**

Classification criteria are not met based on available data

**Germ cell mutagenicity**

Classification criteria are not met based on available data

**Carcinogenicity**

IARC: No component of this product present at a level equal to or greater than 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at a level equal to or greater than 0.1% is identified as a potential or confirmed carcinogen by ACGIH.

NTP: No component of this product present at a level equal to or greater than 0.1% is identified as an anticipated or confirmed carcinogen by NTP.

OSHA: No component of this product present at a level equal to or greater than 0.1% is identified as a potential or confirmed carcinogen by OSHA.

**Reproductive toxicity**

Classification criteria are not met based on available data

**Specific target organ toxicity - single exposure**

Classification criteria are not met based on available data

**Specific target organ toxicity - repeated exposure**

Classification criteria are not met based on available data

**Aspiration hazard**

Classification criteria are not met based on available data

**Symptoms / Routes of exposure**

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Ingestion: There may be irritation of the throat.

Skin: There may be mild irritation at the site of contact.

Eyes: There may be irritation and redness.

Delayed / Immediate Effects: No known symptoms.

**Additional Information**

Exposure may cause irritation of eyes, mucous membranes, upper respiratory tract and skin. To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

**SECTION 12: Ecological information**

**12.1. Toxicity**

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Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**12.2. Persistence and degradability**

No data available on mobility of the substance.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

**12.6 Other adverse effects**

No data available.

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**

Waste treatment methods: Dispose substance in accordance with prevailing country, federal, state and local regulations.

**SECTION 14: Transport information**

**Department of Transportation (DOT):** Not regulated

**TDG Transport by sea:** Not regulated

**Air transport:** Not regulated

**SECTION 15: Regulatory information**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**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:**

No SARA Hazards.

**Massachusetts Right to Know components:**

No components are subject to the Massachusetts Right to Know Act.

No components are subject to the Pennsylvania Right to Know Act.

**Pennsylvania Right to Know components:**

No components are subject to the New Jersey Right to Know Act.

**New Jersey Right to Know components:**

No components are subject to the New Jersey Right to Know Act.

**California Prop. 65 components:**

This product does not contain any chemicals known to State of California to cause cancer,

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birth defects, or any other reproductive harm.

**Section 16. Other information****Other Information about this product**

Not available

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This above information is believed to be correct and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty with respect to such information, and we assume no liability resulting from its use. Users should make independent decisions regarding the suitability of the information for their particular purposes.