

## SAFETY DATA SHEET

Version 1.2  
Revision Date 4/22/2020  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name: human adipose microvessels

Brand: ASLS

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Synthesis of substances, Research Use Only

#### 1.3 Details of the supplier of the safety data sheet

Advanced Solutions Life Sciences

1901 Nelson Miller Pkwy

Louisville, KY 40223

Telephone: 1 877-438-2741

#### 1.4 Emergency telephone number

Emergency Phone # (Worldwide): +1-703-741-5500 (CHEMTREC)

Emergency Phone # (USA): 1-800-262-8200 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 4), H227

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram none

Signal word Warning

Hazard statement(s)

H227 Combustible liquid.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P280 Wear protective gloves/ eye protection/ face protection.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/ container to an approved waste disposal plant.

#### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Rapidly absorbed through skin.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Synonyms: DMSO

Dimethyl sulfoxide

Formula: C<sub>2</sub>H<sub>6</sub>SO  
Molecular weight: 78.13 g/mol  
CAS-No.: 67-68-5  
EC-No.: 200-664-3  
Registration number: 01-2119431362-50

### **Hazardous components**

Component Classification Concentration

#### **Dimethyl sulfoxide**

Flam. Liq. 4; H227 90 - 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## **4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

#### **In case of eye contact**

Flush eyes with water as a precaution.

#### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### **4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

### **4.3 Indication of any immediate medical attention and special treatment needed**

No data available

## **5. FIREFIGHTING MEASURES**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.2 Special hazards arising from the substance or mixture**

No data available

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

Use water spray to cool unopened containers.

## **6. ACCIDENTAL RELEASE MEASURES**

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

Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.  
For personal protection see section 8.

### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Avoid inhalation of vapor or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): 10: Combustible liquids

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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

### **8.1 Control parameters**

#### **Components with workplace control parameters**

Component Dimethyl sulfoxide

CAS-No. 67-68-5

Value TWA 250 ppm

Control parameters Basis

USA. Workplace Environmental Exposure Levels (WEEL)

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### **Personal protective equipment**

##### **Eye/face protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of

contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Impervious clothing; the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) 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).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

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

- a) Appearance Form: liquid, clear  
Color: colorless
- b) Odor sulphurous
- c) Odor Threshold No data available
- d) pH Not applicable
- e) Melting point/freezing point: Melting point/range: 18.4 °C (65.1 °F)
- f) Initial boiling point and boiling range: 189 °C (372 °F) at 1,013 hPa (760 mmHg)
- g) Flash point 87 °C (189 °F) - closed cup - ASTM D 93
- h) Evaporation rate No data available
- i) Flammability (solid, gas) No data available
- j) Upper/lower flammability or explosive limits  
Upper explosion limit: 42 %(V)  
Lower explosion limit: 3.5 %(V)
- k) Vapor pressure 0.55 hPa (0.41 mmHg) at 20 °C (68 °F) 4 hPa (3 mmHg) at 50 °C (122 °F)
- l) Vapor density 2.70 - (Air = 1.0)
- m) Relative density 1.104 g/cm<sup>3</sup> at 20 °C (68 °F)
- n) Water solubility completely miscible
- o) Partition coefficient: noctanol/water log Pow: -1.349
- p) Auto-ignition temperature: 300 - 302 °C (572 - 576 °F)
- q) Decomposition temperature: > 190 °C (> 374 °F) -
- r) Viscosity No data available
- s) Explosive properties Not explosive
- t) Oxidizing properties: the substance or mixture is not classified as oxidizing.

### **9.2 Other safety information**

Solubility in other solvents

Alcohol - soluble

Diethylether - soluble

Surface tension 43.5 mN/m at 20 °C (68 °F)

Relative vapor density 2.70 - (Air = 1.0)

## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

No data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

No data available

## 10.4 Conditions to avoid

Heat, flames and sparks.

## 10.5 Incompatible materials

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

Other decomposition products - No data available

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 14,500 mg/kg

LC50 Inhalation - Rat - 4 h - 40250 ppm

LD50 Dermal - Rabbit - > 5,000 mg/kg

No data available

#### Skin corrosion/irritation

Mild skin irritation

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Mouse, lymphocyte, Cytogenetic analysis

Mouse, lymphocyte, Mutation in mammalian somatic cells.

Rat, Cytogenetic analysis

Mouse, DNA damage

#### Carcinogenicity

Carcinogenicity - Rat - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Carcinogenicity - Mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukemia Skin and Appendages: Other: Tumors.

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 a carcinogen or potential carcinogen by ACGIH.

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

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

Reproductive toxicity - Rat - Intraperitoneal  
Effects on Fertility: Abortion.

Reproductive toxicity - Rat - Intraperitoneal  
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - Rat - Subcutaneous  
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).

Reproductive toxicity - Mouse - Oral  
Effects on Fertility: Pre-implantation mortality (e.g., reduction in number corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - Mouse - Intraperitoneal  
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **Additional Information**

RTECS: PV6210000

Exposure to large amounts can cause: redness of skin, Itching, burning, sedation, Headache, Nausea, Dizziness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Eyes - Eye disease - Based on Human Evidence

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h  
LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h, (OECD Test Guideline 202)

Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h, (OECD Test Guideline 201)

### **12.2 Persistence and degradability**

Biodegradability Result: 31 % - According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301D)

### **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 not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

No data available

Stability in water - 0.12 - 1.2 h at 30 °C

Remarks: Hydrolyses readily.

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

#### **Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### **Contaminated packaging**

Dispose of as unused product.

## **14. TRANSPORT INFORMATION**

### **DOT (US)**

NA-Number: 1993 Class: NONE Packing group: III

Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

### **IMDG**

Not dangerous goods

### **IATA**

Not dangerous goods

## **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 (DeMinimis) reporting levels established by SARA Title III, Section 313.

### **SARA 311/312 Hazards**

Fire Hazard, Chronic Health Hazard

### **Massachusetts Right to Know Components**

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

**Pennsylvania Right to Know Components**

Dimethyl sulfoxide  
CAS-No. 67-68-5

**New Jersey Right to Know Components**

Dimethyl sulfoxide  
CAS-No. 67-68-5

**California 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.

**16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Flam. Liq. Flammable liquids

H227 Combustible liquid.

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Advanced Solutions Life Sciences and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

**Preparation Information**

Advanced Solutions Life Sciences  
1 877-438-2741  
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