SAFETY DATA SHEET

1. IDENTIFICATION
1.1. Product Name
Stemolecule™ PD0325901 in Solution

1.2. Catalog Number
04-0006-02

1.3. Uses and restrictions
For research use only. Not for use in diagnostic or therapeutic applications

1.4. Manufacturer/Supplier
Stemgent®, Inc.
4 Hartwell Place.
Lexington, MA 02421 USA
(617) 245-0000

1.5. In Case of Emergency
- For medical emergencies, contact your local emergency center.
- For transportation emergencies, contact your local transportation authorities.
- For other non-medical or environmental emergencies please call (617) 245-0030, 8:00 am-4:00 pm EST, Monday – Friday.

2. HAZARDS IDENTIFICATION
2.1. Classification
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
- Acute toxicity, Oral (Category 3), H301
- Specific target organ toxicity – repeated exposure (Category 2), H373
- Acute aquatic toxicity (Category 1), H400
- Chronic aquatic toxicity (Category 1), H410
- Flammable liquids (Category 4), H227.

2.2. Signal Word
Danger.

2.3. Symbol

2.4. Hazard Statement(s)
- H227
  Combustible liquid.
- H301
  Toxic if swallowed.
- H373
  May cause damage to organs through prolonged or repeated exposure.
- H410
  Very toxic to aquatic life with long lasting effects.

2.5. Precautionary Statement(s)
- P210
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P260
  Do not breathe dust/fume/gas/mist/vapours/spray.
- P264
  Wash skin thoroughly after handling.
- P270
  Do not eat, drink, or smoke when using this product.
- P273
  Avoid release to the environment.
- P280
  Wear protective gloves/protective clothing/eye protection/face protection.
- P301 + P310 + P330
  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
- P314
  Get medical advice/attention if you feel unwell.
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- P370 + P378
  In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

- P391
  Collect spillage.

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

- P405
  Store locked up.

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

2.6. Hazards not otherwise classified (HNOC) or not covered by GHS

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Chemical Name
3.2. Synonyms
3.3. Chemical Formula
3.4. Molecular Weight
3.5. CAS Number

Stemolecule™ PD0325901 in Solution
N-[(2R)-2,3-dihydroxypropoxy]-3,4-difluoro-2-[(2-fluoro-4-iodophenyl)amino]-benzamide
C_{16}H_{14}F_{3}IN_{2}O_{4}
482.19 g/mol
391210-10-9

Dimethyl Sulfoxide
DMSO
C_{2}H_{6}OS
78.13 g/mol
67-68-5

HAZARDOUS COMPONENTS WITHIN MIXTURE

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No./EC-No.</th>
<th>Classification</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Dimethyl Sulfoxide</td>
<td>CAS-No: 67-68-5</td>
<td>Flam. Liq. 4; H227</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>EC-No: 200-664-3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1. First Aid Instructions

- General Advice
  Move out of exposure area. Consult a physician.

- Eyes
  Check for and remove contact lenses immediately and flush thoroughly with water for at least 15 minutes. Call a physician.

- Skin
  Immediately flush skin with copious amounts of water. Remove contaminated clothing and shoes and wash before use. Contact a physician.

- Ingestion
  If swallowed, wash mouth out with water provided person is conscious. Do not induce vomiting. Loosen tight clothing. Contact a physician.

- Inhalation
  If inhaled, remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, call a physician.
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4.2. Most Important Symptoms/effects, acute and immediate

4.3. Indications of immediate medical attention and special treatment needed

No data available.

5. FIRE FIGHTING MEASURES

5.1. Suitable extinguishing media.

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

5.2. Specific hazards arising from the chemical

Carbon oxides, sulfur oxides, nitrogen oxides.

5.3. Special protective equipment and precautions for fire-fighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures

Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating from explosive concentration. Vapours can accumulate in low areas. Ensure adequate ventilation.

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 clean up

Remove ignition points. Ventilate area and contain spillage. Soak up with inert absorbent material and dispose of as hazardous waste. In case of mist formation use a respirator or self-contained breathing apparatus (SCBA).

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- Avoid inhalation, contact with eyes, skin, and clothing.
- Avoid prolonged or repeated exposure.
- Provide appropriate exhaust ventilation at places where dust is formed.
- For other precautions see section 2.5.

7.2. Conditions for safe storage, including any incompatibilities

Store at -20°C protected from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Dimethyl Sulfoxide, CAS-No. 67-68-5

Dimethyl Sulfoxide Exposure Levels

- TWA: 250ppm – USA. Workplace Environmental Exposure Levels (WEEL)
8.2. Appropriate engineering controls
Safety shower and eye bath. Mechanical exhaust required.

8.3. Protection measures and Personal Protective Equipment
Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling.

- Respiratory Protection
  Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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.

- Eye Protection
  Chemical safety goggles.

- Skin Protection
  Protective gloves and lab coat. Use nitrile rubber gloves with a minimum thickness of 0.2mm.

9. PHYSICAL/CHEMICAL PROPERTIES

9.1. Appearance
Colorless liquid.

9.2. Odor
No data available.

9.3. Odor Threshold
No data available.

9.4. pH
No data available.

9.5. Melting point/freezing point
No data available.

9.6. Initial boiling point and boiling range
No data available.

9.7. Flash point
89°C (192°F)

9.8. Evaporation rate
No data available.

9.9. Flammability (solid, gas);
No data available.

9.10. Upper/lower flammability or explosive limits
No data available.

9.11. Vapor pressure
No data available.

9.12. Vapor density
No data available.

9.13. Relative density
No data available.

No data available.

9.15. Partition coefficient: n-octanol/water
No data available.

9.16. Auto-ignition temperature
No data available.

9.17. Decomposition temperature
No data available.

9.18. Viscosity
No data available.

9.19. Explosive properties
No data available.

9.20. Oxidizing properties
No data available.
10. STABILITY/REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical Stability
This product is stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to Avoid
Prolonged heating above 150°C (302°F) can cause rapid, exothermic decomposition.

10.5. Incompatible materials
Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents, Strong bases.

10.6. Hazardous decomposition products
Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio) methane.

11. TOXICOLOGICAL INFORMATION

11.1. Toxicological effects

• Acute toxicity
  - PD0325901
  - LD50 Oral – Rat – 300 mg/kg
  - Inhalation: No data available.
  - Dermal: No data available.
  - LD50 Intravenous – Rat – 400 mg/kg DMSO
  - Oral LD50 (male rat): 14,500 – 28,300 mg/kg
  - Inhalation LD50 (rat): 4 hrs – 40250 ppm
  - Dermal LD50 (rat): 40,000 mg/kg

• Skin corrosion/irritation
  - Skin irritation (human): Mild

• Serious eye damage/eye irritation
  - Eye irritation (human): None by EC protocols

• Respiratory or skin sensitization
  - Skin sensitization (human): None by EC protocols

• Germ cell mutagenicity
  - Mouse
  - Lymphocyte
  - Cytogenic analysis
  - Mutation in mammalian somatic cells
  - DNA damage
  - Cytotoxic analysis

No data available.
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- Carcinogenicity
  - Rat – oral – tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and appendages: Other: Tumors.
  - Mouse – oral – tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors.
  - IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.
  - ACGIH: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
  - NTP: No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.
  - OSHA: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

- Reproductive Toxicity
  - Reproductive toxicity – Rat – intraperitoneal
    - Effects on Fertility: Abortion.
    - 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 – Mouse – Oral
    - Effects on Fertility: Pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per 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.
  - repeated exposure
    - No data available.

- Aspiration hazard
  - No data available.

11.2. Symptoms related to the physical, chemical and toxicological characteristics
  - No data available.

11.3. Effects of Short-Term Exposure
  - Effects due to ingestion my include: Nausea, Fatigue, Headache.
  - No data available.
11.4. Effects of Long-Term Exposure

- Oral study (13 weeks, rat): LOEL = 8800 mg/kg/day (minor target organ effects: liver) (reduced weight gain): NOEL = 1100 mg/kg/day
- Inhalation study (6 weeks, rat): NOEL = 60 ppm

11.5. Numerical measures of toxicity

No data available.

11.6. Other Information

Eyes – Eye disease – Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1. Toxicity

- LC50 – Pimephales prmelas (fathead minnow) – 34,000 mg/l – 96h
- LC50 – Oncorhynchus mykiss (rainbow trout) – 35,000 mg/l – 96h
- EC50 – Daphnia magna (Water flea) – 24,600 mg/l – 48h
- EC50 – Pseudokirchneriella subcapitata (green algae) – 17,000 mg/l – 72h

12.2. Persistence and degradability

Result: 31% - According to the results of tests of biodegradability this product is not readily biodegradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not applicable.

12.6. Other adverse effects

An environmental hazard cannot be excluded when handled or disposed of improperly. Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

13.1. Disposal Method

Waste must be disposed of in accordance with federal, state, and local environmental control regulations.

13.2. Personal safety

Refer to section 8.

14. TRANSPORT INFORMATION

This product is considered non-hazardous for transport.

15. REGULATORY INFORMATION

U.S. Federal Regulations

- SARA 313 components
  This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels.
- SARA 302 components
  Does not contain any components subject to reporting.
- SARA 311/312 Hazards
  Acute health hazard, Fire hazard
- Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see CFR 61)
  Does not contain any components subject to reporting.

U.S. State Regulations

- California Proposition 65
  Does not contain any components subject to reporting.
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- Massachusetts Right To Know Components
  - Does not contain any components subject to reporting.
- Pennsylvania Right To Know Components
  - Does not contain any components subject to reporting.
- New Jersey Right To Know Components
  - Dimethyl Sulfoxide, CAS No. 67-68-5
  - Not controlled under WHMIS (Canada).

16. OTHER INFORMATION

Notice

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. Stemgent, Inc. shall not be held liable for any damage resulting from handling or from contact with the product. See Stemgent, Inc. website for terms and conditions of sale.

Preparation Date
February 19, 2016

Version No.
1.2

Prepared by
Quality Control

END OF SAFETY DATA SHEET