SAFETY DATA SHEET

73382 73384 - Rolipram

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name
Rolipram

Other means of identification
Catalog Number
73382 73384
Document Number
DX21207
Synonyms
SB 95952; ZK 62711; 4-[3-(cyclopentyloxy)-4-methoxyphenyl]-2-pyrrolidinone

Recommended use of the chemical and restrictions on use

Recommended Use
Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier
STEMCELL Technologies Canada Inc.
Suite 500 - 1618 Station Street
Vancouver, British Columbia V6A 1B6 Canada

Emergency telephone number

Emergency Telephone
1-800-667-0322

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)

Not applicable

Label elements
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Warning

Hazard statements
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

Appearance Crystalline
Physical state Solid
Odor No data available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/eye protection/face protection

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
If on skin: Wash with plenty of water and soap
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
If inhaled: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
Not applicable

Unknown acute toxicity
100% of the mixture consists of ingredient(s) of unknown toxicity
100% of the mixture consists of ingredient(s) of unknown acute oral toxicity
100% of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Synonyms SB 95952; ZK 62711; 4-[3-(cyclopentyloxy)-4-methoxyphenyl]-2-pyrrolidinone.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(3-cyclopentyloxy-4-methoxyphenyl)pyrrolidin-2-ol</td>
<td>61413-54-5</td>
<td>100</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures
General advice Show this safety data sheet to the doctor in attendance.
Inhalation Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.
Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed
Symptoms Burning sensation.
Indication of any immediate medical attention and special treatment needed
Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.
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Conditions for safe storage, including any incompatibilities

Storage Conditions

Store in accordance with information listed on the Product Information Sheet (PIS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection
Wear suitable gloves. Impervious gloves.

Skin and body protection
Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations
Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
</tbody>
</table>
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Odor threshold
No data available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
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</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Flash point</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Evaporation rate</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Lower flammability limit</td>
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<td>known</td>
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<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Relative density</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
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<td>None</td>
<td>known</td>
</tr>
<tr>
<td>Explosive properties</td>
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<td>None</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other Information
Softening point
No information available

Molecular weight
275.3

Molecular formula
C16H21NO3

VOC Content (%)
No information available

Liquid Density
No information available

Bulk density
No information available

10. STABILITY AND REACTIVITY

Reactivity
No information available.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx).
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact
Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.

Skin contact
Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

Ingestion
Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms
Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity
100 % of the mixture consists of ingredient(s) of unknown toxicity
100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation
Classification based on data available for ingredients. Irritating to skin.

Product Information

Serious eye damage/eye irritation
Classification based on data available for ingredients. Irritating to eyes.

Product Information

Respiratory or skin sensitization
No information available.

Product Information
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Germ cell mutagenicity  No information available.
Product Information

Carcinogenicity  No information available.

Reproductive toxicity  No information available.
Product Information

STOT - single exposure  May cause respiratory irritation.
Product Information

STOT - repeated exposure  No information available.
Product Information

Aspiration hazard  No information available.
RTECS #  UY5749237

12. ECOLOGICAL INFORMATION

Ecotoxicity  The environmental impact of this product has not been fully investigated.
Product Information

Persistence and degradability  No information available.

Bioaccumulation  There is no data for this product.

Other adverse effects  No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products  Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging  Do not reuse empty containers.

14. TRANSPORT INFORMATION
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>International Inventory</th>
<th>Compliance Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Does not comply</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
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Acute health hazard Yes
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations
This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Prepared By, Quality Control. STEMCELL Technologies Canada Inc.
Revision Date 04-Jun-2021
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product.