1. Identification

Product Name: Loperamide hydrochloride

Cat No.: J60168

CAS-No: 34552-83-5

Synonyms: No information available

Recommended Use: Laboratory chemicals.

Uses advised against: Food, drug, pesticide or biocidal product use.

Company
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

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

Acute oral toxicity Category 3

Label Elements

Signal Word
Danger

Hazard Statements
Toxic if swallowed
Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Storage
Store locked up
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(4-Chlorophenyl)-4-hydroxy-N,N-dimethyl-.alpha.,.alpha.-diphenylpiperidine-1-butyramide monohydrochloride</td>
<td>34552-83-5</td>
<td>&lt;=100</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion
Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects
None reasonably foreseeable.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Unsuitable Extinguishing Media
No information available

Flash Point
No information available
Method - No information available
Autoignition Temperature No information available
Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
None known.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling
Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Storage
Protect from moisture.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
None under normal use conditions.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
No protective equipment is needed under normal use conditions.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C29 H33 Cl N2 O2.HCl</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>513.51</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

- Reactive Hazard: None known, based on information available.
- Stability: Moisture sensitive.
- Conditions to Avoid: Incompatible products.
- Incompatible Materials: Strong oxidizing agents.
- Hazardous Decomposition Products: None under normal use conditions.
- Hazardous Polymerization: Hazardous polymerization does not occur.
- Hazardous Reactions: None under normal processing.

11. Toxicological information

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Component Information</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(4-Chlorophenyl)-4-hydroxy-N,N-dimethyl-alpha,alpha-diphenylpiperidine-1-butyramide monohydrochloride</td>
<td>LD50 = 185 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

- Toxicologically Synergistic Products: No information available.
- Delayed and immediate effects as well as chronic effects from short and long-term exposure:
  - Irritation: No information available.
  - Sensitization: No information available.
Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(4-Chlorophenyl)-4-hydroxy-N,N-dimethyl-alpha-alpha-diphenylpiperidine-1-butyramide monohydrochloride</td>
<td>34552-83-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
None known

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
No information available

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available.

Mobility
No information available.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper Shipping Name</th>
<th>Technical Name</th>
<th>Hazard Class</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN2811</td>
<td>Toxic solid, organic, n.o.s.</td>
<td>(Loperamide hydrochloride)</td>
<td>6.1</td>
<td>III</td>
</tr>
</tbody>
</table>

TDG

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN2811</td>
<td>Toxic solid, organic, n.o.s.</td>
<td>6.1</td>
<td>III</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper Shipping Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN2811</td>
<td>TOXIC SOLID, ORGANIC, N.O.S*</td>
</tr>
</tbody>
</table>
Hazard Class: 6.1
Packaging Group: III

15. Regulatory Information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(4-Chlorophenyl)-4-hydroxy-N,N-dimethyl-(\alpha,\alpha)-diphenylpi</td>
<td>34552-83-5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>peridine-1-butyramide monohydrochloride</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- TSCA - Toxic Substances Control Act, (40 CFR Part 710)
- X - Listed
- ‘-’ - Not Listed

TSCA 12(b) - Notices of Export: Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(4-Chlorophenyl)-4-hydroxy-N,N-dimethyl-(\alpha,\alpha)-diphenylpi</td>
<td>34552-83-5</td>
<td>X</td>
<td>-</td>
<td>252-082-4</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>KE-05835</td>
</tr>
<tr>
<td>peridine-1-butyramide monohydrochloride</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. Federal Regulations

SARA 313: Not applicable

SARA 311/312 Hazard Categories: See section 2 for more information

CWA (Clean Water Act): Not applicable

Clean Air Act: Not applicable

OSHA - Occupational Safety and Health Administration: Not applicable

CERCLA: Not applicable

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

U.S. State Right-to-Know Regulations: Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

U.S. Department of Homeland: This product does not contain any DHS chemicals.
16. Other information

Prepared By
Health, Safety and Environmental Department
Email: tech@alfa.com
www.alfa.com

Revision Date 19-Feb-2020
Print Date 19-Feb-2020
Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 34552-83-5.

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.

End of SDS