1. Identification

Product identifier

Product Name
SLA 92

Other means of identification

Product Code(s)
988

Synonyms
Lightweight aggregate SLA 92

Recommended use of the chemical and restrictions on use

Recommended use
Refractory

Restrictions on use
No information available

Details of the supplier of the safety data sheet

Supplier Address
Almatis, Inc.
P.O. Box 300
4701 Alcoa Road
Bauxite, AR 72022
USA
Telephone: +1 501-776-4677

Emergency telephone number

Emergency Telephone
3E Global Incident Response Hotline (Almatis access code: 334735)
US/Canada: +01 760 476 3962, +1 866 519 4752 Brazil: +55 11 4349 1907

2. Hazard(s) identification

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

Combustible dust
Yes

Hazards not otherwise classified (HNOC)
May form combustible dust concentrations in air

Label elements

Warning

Hazard statements
May form combustible dust concentrations in air
Other information
Not applicable

3. Composition/information on ingredients

Substance
Not applicable.

Mixture
Synonyms Lightweight aggregate. SLA 92.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>&lt;=10</td>
<td>*</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

Inhalation         Remove to fresh air.
Eye contact        Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact        Wash skin with soap and water.
Ingestion          Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms           Contact with dust can cause mechanical irritation or drying of the skin.

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 surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Avoid generation of dust. Fine dust dispersed in air may ignite.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge Yes.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation. Avoid generation of dust. Avoid contact with eyes. Use personal protective equipment as required. Do not breathe dust. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges.

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

Methods and material for containment and cleaning up

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

Methods for cleaning up
Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

8. Exposure controls/personal protection

Control parameters

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>TWA: 1 mg/m³ resolvable particulate matter</td>
<td>TWA: 15 mg/m³ total dust TWA: 5 mg/m³ resolvable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ resolvable fraction</td>
<td>-</td>
</tr>
<tr>
<td>1344-28-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering controls
Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Hand protection
Wear suitable gloves.
Skin and body protection If there is a risk of contact:. Wear suitable protective 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 Do not breathe dust.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid Powder Granular</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>white Granular Powder</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>white</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
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<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
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<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
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<tr>
<td>Water solubility</td>
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<tr>
<td>Solubility in other solvents</td>
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<td>Partition coefficient</td>
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<tr>
<td>Autoignition temperature</td>
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<td>Decomposition temperature</td>
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<tr>
<td>Dynamic viscosity</td>
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<tr>
<td>Other information</td>
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<td></td>
</tr>
<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
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<tr>
<td>Softening point</td>
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</tr>
<tr>
<td>Molecular weight</td>
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</tr>
<tr>
<td>VOC Content (%)</td>
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</tr>
<tr>
<td>Liquid Density</td>
<td>0.7-0.9 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>400-500 kg/m³</td>
<td></td>
</tr>
</tbody>
</table>

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 Excessive heat. Heating in air. Dust formation.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None under normal processing.
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. Dust contact with the eyes can lead to mechanical irritation.

Skin contact  Specific test data for the substance or mixture is not available. May cause irritation.

Ingestion  Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Numerical measures of toxicity

Oral LD50
Inhalation LC50

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50 (mg/kg)</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>&gt; 5000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1344-28-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Skin corrosion/irritation  No information available.

Serious eye damage/eye irritation  No information available.

Respiratory or skin sensitization  No information available.

Germ cell mutagenicity  No information available.

Carcinogenicity  No information available.

Reproductive toxicity  No information available.

STOT - single exposure  No information available.

STOT - repeated exposure  No information available.

Aspiration hazard  No information available.

Other adverse effects  No information available.

Interactive effects  No information available.
12. Ecological information

Ecotoxicity
Aquatic toxicity is unlikely due to low solubility. Not considered to be harmful to aquatic life.

Persistence and degradability
Not readily biodegradable.

Bioaccumulation
Does not bioaccumulate.

Mobility
No information available.

Other adverse effects
None.

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

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

ICAO (air)
Not regulated

IATA
Not regulated

IMDG
Not regulated

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

15. Regulatory information

International Inventories

TSCA
Complies.

DSL/NDSL
Complies.

EINECS/ELINCS
Complies.

ENCS
Complies.

IECSC
Contact supplier for inventory compliance status.

KECL
Complies.

PICCS
Contact supplier for inventory compliance status.
AICS Contact supplier for inventory compliance status.

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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide - 1344-28-1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Key or legend to abbreviations and acronyms used in the safety data sheet

Legend  Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
TWA  TWA (time-weighted average)  STEL  STEL (Short Term Exposure Limit)
Ceiling  Maximum limit value  *  Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By
Product Safety Department
Almatis B.V.
Theemsweg 30
3197 KM Botlek Rt
The Netherlands
+31-181-270124
info@almatis.com.

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10-Jul-2019

Revision Note

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 Safety Data Sheet