1. Identification

Product identifier

Product name: Zinc Oxide (pieces)

Internal identification: Replaces M-2200-335, M-2200-336

CAS number: 1314-13-2

Recommended use of the chemical and restrictions on use

Application: Exterior surface coating.

Uses advised against: No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier: Kurt J Lesker Company

Manufacturer: Kurt J Lesker Company

1925 Route 51
Jefferson Hills, PA 15025
+1 412-387-9200

Kurt J Lesker Company LTD

United Kingdom

15-16 Burgess Road
Hastings, East Sussex, TN35 4NR

England

Customer Service: +44 (0) 1424 458100

msds@lesker.com

Emergency telephone number

Emergency telephone: North America [USA, Canada, Mexico]: 1-866-519-4752

Mainland China: (+86) 4001 2001 74

Europe: (int'l call prefix)-1-760-476-3961

Asia Pacific: (int'l call prefix)-1-760-476-3960

Middle East & Africa: (int'l call prefix)-1-760-476-3959

Access Code - 333594

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards: Not Classified

Health hazards: Not Classified

Environmental hazards: Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Label elements
Zinc Oxide (pieces)

Pictogram

Signal word Warning

Hazard statements H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/ container in accordance with national regulations.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Zinc Oxide (pieces)</th>
<th>0 - 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 1314-13-2</td>
<td></td>
</tr>
<tr>
<td>M factor (Acute) = 1</td>
<td>M factor (Chronic) = 10</td>
</tr>
</tbody>
</table>

Classification
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

Ingestion Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.

Skin Contact Rinse with water.

Eye contact Rinse with water. Get medical attention if any discomfort continues.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation No specific symptoms known.

Ingestion No specific symptoms known.

Skin contact Prolonged contact may cause dryness of the skin.

Eye contact No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.
Zinc Oxide (pieces)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards: None known.

Hazardous combustion products: Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting: Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions: Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk.

Environmental precautions

Environmental precautions: Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up: Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

Reference to other sections: For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions: Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
### Zinc Oxide (pieces)

**Advice on general occupational hygiene**  
Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

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

**Storage precautions**  
Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

**Storage class**  
Miscellaneous hazardous material storage.

**Specific end use(s)**  
The identified uses for this product are detailed in Section 1.

### 8. Exposure Controls/personal protection

**Control parameters**

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Exposure Limit</th>
<th>OSHA</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³ total dust</td>
<td>15 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ respirable fraction</td>
<td></td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Short-term exposure limit (15-minute): ACGIH 10 mg/m³ respirable fraction</td>
<td></td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³ fume</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³ respirable fraction</td>
<td>5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Zinc Oxide (pieces)**

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<td>5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

OSHA = Occupational Safety and Health Administration.  
ACGIH = American Conference of Governmental Industrial Hygienists.

**Immediate danger to life and health**  
500 mg/m³

### Zinc Oxide (pieces) (CAS: 1314-13-2)

<table>
<thead>
<tr>
<th>Exposure Limit</th>
<th>OSHA</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate danger to life and health</td>
<td>500 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Exposure controls**

**Protective equipment**

**Appropriate engineering controls**  
Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection**  
Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

**Hand protection**  
No specific hand protection recommended. Avoid contact with skin.

**Other skin and body protection**  
Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Hygiene measures**  
Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Zinc Oxide (pieces)

Respiratory protection
Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

Environmental exposure controls
Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and Chemical Properties
Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid.</td>
</tr>
<tr>
<td>Color</td>
<td>Off-white.</td>
</tr>
<tr>
<td>Odor</td>
<td>No characteristic odor.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point</td>
<td>1975°C</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>5.606 @ 25°C</td>
</tr>
<tr>
<td>Bulk density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>0.00016 g/l water @ 30°C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>81.408</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

Reactivity
There are no known reactivity hazards associated with this product.

Stability
Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Zinc Oxide (pieces)

Possibility of hazardous reactions
No potentially hazardous reactions known.

Conditions to avoid
There are no known conditions that are likely to result in a hazardous situation.

Materials to avoid
No specific material or group of materials is likely to react with the product to produce a hazardous situation.

Hazardous decomposition products
Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Animal data
Based on available data the classification criteria are not met.

Serious eye damage/irritation
Based on available data the classification criteria are not met.

Respiratory sensitization
Based on available data the classification criteria are not met.

Skin sensitization
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Carcinogenicity
Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Aspiration hazard
Not relevant. Solid.
Zinc Oxide (pieces)

**General information**
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
No specific symptoms known.

**Ingestion**
No specific symptoms known.

**Skin Contact**
Prolonged contact may cause dryness of the skin.

**Eye contact**
No specific symptoms known.

**Route of exposure**
Ingestion Inhalation Skin and/or eye contact

**Target Organs**
No specific target organs known.

### 12. Ecological Information

**Toxicity**
Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

**Persistence and degradability**
The degradability of the product is not known.

**Bioaccumulative potential**
No data available on bioaccumulation.

**Partition coefficient**
Not applicable.

**Mobility in soil**
No data available.

**Mobility**
None known.

### 13. Disposal considerations

**Waste treatment methods**
The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

**Disposal methods**
Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

### 14. Transport information

**General**
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

**UN Number**
Not applicable.

**UN proper shipping name**
Not applicable.
Zinc Oxide (pieces)

Transport hazard class(es)
No transport warning sign required.

Packing group
Not applicable.

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
Based on available knowledge of this material, it has been determined to be non-hazardous and will not pose a risk to persons or the environment in its provided form. However, any cutting, welding, melting, grinding, or use for deposition will produce dust, fume, or particulates containing component elements of this material. Exposure to these components may present significant health hazards. Note: Fine particulate may be a combustible dust which, when dispersed in air, may present an explosion hazard.

Transport in bulk according to
Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed or exempt.

SARA 313 Emission Reporting
Yes

CAA Accidental Release Prevention
None of the ingredients are listed or exempt.

FDA - Essential Chemical
None of the ingredients are listed or exempt.

FDA - Precursor Chemical
None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
None of the ingredients are listed or exempt.
Zinc Oxide (pieces)

California Air Toxics "Hot Spots" (A-I)
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List
All the ingredients are listed or exempt.

Rhode Island "Right To Know" List
All the ingredients are listed or exempt.

Minnesota "Right To Know" List
None of the ingredients are listed or exempt.

New Jersey "Right To Know" List
All the ingredients are listed or exempt.

Pennsylvania "Right To Know" List
All the ingredients are listed or exempt.

Inventories
US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

16. Other information

Training advice
Only trained personnel should use this material.

Revision date
4/5/2018

Revision
4

Supersedes date
3/15/2017

SDS No.
4562

Hazard statements in full
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

End of SDS

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.