

SAFETY DATA SHEET

in accordance with Regulation (EC) no. 1907/2006 (REACH)

MIXTURE OF ALUMINIUM OXIDE POWDER - ALUMINIUM POWDER - ZINC POWDER



Date of Issue: 22-08-2022

Date of Revision:

Powder Number: LPP.K-80-13

Version: 2.0

SECTION 1: Identification of The Substance or Mixture and The Company/Undertaking

1.1. Product identification

| | |
|----------------|-------------|
| Product type: | Mixture |
| Product code: | LPP.K-80-13 |
| Product group: | Powder |

1.2. Relevant identified use of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Specific industrial/professional use: Industrial For professional use only

1.2.2. Uses advised against

No additional information available.

1.3. Details regarding the supplier of the safety data sheet

Titomic Limited

info@titomic.com

www.titomic.com

1.4. Emergency telephone number

| Country | Organisation / Company | Address | Emergency tel. number |
|-----------------|---|-----------------------------------|-----------------------|
| THE NETHERLANDS | National Poisons Information Center (NVIC) University Medical Centre (UMC) Utrecht, The National Poisons Information Centre (NVIC) provides information for doctors, veterinary surgeons, pharmacists and other medical professionals about the potential health effects and treatment options in cases of poisoning. The NVIC can be reached 24 hours a day, both by telephone and Internet. | P.O. Box 85500 3508 GA Utrecht | +31 30 274 88 88 |

SECTION 2: Hazard Identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) no. 1272/2008 [CLP]

Flam. Liq. 1 H228

Water-react. 2 H261

For total text of H phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11

F; R15

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For total text of R phrases: see section 16

Harmful physical-chemical, health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) no. 1272/2008 [CLP]

| | |
|-------------------------------|--|
| Hazard pictograms (CLP): |  GHS02 |
| Signal word (CLP): | Hazard |
| Hazard indication (CLP): | H228 - Flammable solid H411 - Poisonous to aquatic organisms, with long-term consequences |
| Safety recommendations (CLP): | P210 - Keep away from open fire and sparks. Do not smoke P223 - Store in well-sealed packaging P241 - Use explosion-proof equipment P280 - Wear protective gloves, protective clothing and eye protection |

2.3. Other hazards

No additional information available

SECTION 3: Composition of And Information About Ingredients

3.1. Substances

Not applicable

3.2. Mixture

| Name | Product identification | % | Classification as laid down in Directive 67/548/EEC |
|-------------------------------------|--|-------|---|
| Aluminium powder (99.6% pure) | (CAS no.) 7429-90-5 (EC no.) 231-072-3 (EU Identification number) 013-002-00-1 (REACH no.) 01-2119529243-45 | 53-57 | F; R11 F; R15 |
| Aluminium oxide powder (99.4% pure) | (CAS no.) 1344-28-1 (EC no.) 215-691-6 (REACH no.) 01-2119529248-35 | 28-32 | Not classified |
| zinc powder (96% pure) | (CAS no.) 7440-66-6 (EC no.) 231-175-3 (EU-Identification number) 030-001-01-9 (REACH no.) 01-2119467174-37 | 13-17 | N; R50/53 |

| Name | Product identification | % | Classification according to Regulation (EC) no. 1272/2008 [CLP] |
|-------------------------------------|--|-------|---|
| Aluminium powder (99.6% pure) | (CAS no.) 7429-90-5 (EC no.) 231-072-3 (EU Identification number) 013-002-00-1 (REACH no.) 01-2119529243-45 | 53-57 | Water-react. 2, H261 Flam. Sol. 1, H228 |
| Aluminium oxide powder (99.4% pure) | (CAS no.) 1344-28-1 (EC no.) 215-691-6 (REACH no.) 01-2119529248-35 | 28-32 | Not classified |
| zinc powder (96% pure) | (CAS no.) 7440-66-6 (EC no.) 231-175-3 (EU-Identification number) 030-001-01-9 (REACH no.) 01-2119467174-37 | 13-17 | Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

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SECTION 4: First Aid Measures

4.1. Description of first aid measures

| | |
|---|--|
| General first aid: | Never give anything by mouth to an unconscious person. If a person feels unwell, consult a physician (show the relevant label if possible). |
| First aid following substance inhalation: | Allow victim to breathe fresh air. Allow victim to rest. In the event of a respiratory arrest, apply artificial respiration. Seek medical assistance if breathing difficulty persists. |
| First aid following contact with skin: | Allow victim to breathe fresh air. Allow victim to rest. In the event of a respiratory arrest, apply artificial respiration. Seek medical assistance if breathing difficulty persists. |
| First aid following contact with eyes: | Rinse immediately with plenty of water. Rinse with lukewarm water for 15 minutes. Lift eyelids using fingers and flush the eyes with plenty of water. Seek medical assistance if pain or redness persists. |
| First aid following ingestion: | Rinse the mouth thoroughly with water. DO NOT induce vomiting. Consult a physician immediately. |

4.2. Main acute and delayed symptoms and effects

| | |
|--|--|
| Symptoms/injuries: | Not considered a serious hazard if used under normal circumstances. |
| Symptoms/injuries following inhalation: | Symptoms of extreme exposure to vapour include: Coughing. Irritation of the throat and airways. Shortness of breath |
| Symptoms/injuries following contact with skin: | May cause minor irritation. |
| Symptoms/injuries following contact with eyes: | May cause eye irritation. |
| Symptoms/injuries following ingestion: | Diarrhoea. Irritation. |
| Chronic symptoms: | Inhaling dust can result in respiratory irritation. Inhalation may cause allergy or asthma symptoms or breathing difficulties. |

4.3. Reporting the necessary immediate medical care and special treatment

No additional information available

Section 5: Firefighting Measures

5.1. Extinguishing media

| | |
|---------------------------------|--|
| Suitable extinguishing media: | Foam. Dry powder. Carbon dioxide. Sand. |
| Unsuitable extinguishing media: | Do not use extinguishing media containing water. |

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5.2. Special hazards arising from the substance or mixture

| | |
|--------------|--|
| Fire hazard: | Can form a flammable and explosive vapour-air mixture. |
|--------------|--|

5.3. Advice for firefighters

| | |
|---------------------------------|---|
| Extinguishing instructions: | Cool the exposed vessels by spraying with water or water mist. Exercise extreme caution when fighting a chemical fire. Avoid discharging fire extinguishing water into the environment. |
| Protection during firefighting: | Do not enter fire zone without suitable safety equipment/clothing, including protective breathing apparatus. |

SECTION 6: Measures to Be Taken in The Event of Accidental Release of The Substance or Mixture

6.1. Personal prevention measures, protective equipment and emergency procedures

| | |
|---|--|
| General measures: | Make sure there is adequate ventilation. Keep away from sources of ignition. |
| 6.1.1. For non-emergency personnel | |
| Emergency procedures: | Evacuate personnel to a safe place. |
| 6.1.2. For emergency personnel | |
| Protective equipment: | Provide cleaning personnel with suitable protection. |
| Emergency procedures: | Ventilate the area. |

6.2. Environmental precautions

Do not discharge into sewage or public waters. If pollution of lakes, rivers or sewage occurs, inform the responsible authorities in accordance with local regulations.

6.3. Methods and materials for containment and cleaning

| | |
|-------------------|--|
| Cleaning methods: | Sweep or scrape from the ground into suitable containers. Keep dust formation to a minimum. Store separately from other materials. |
|-------------------|--|

6.4. Reference to other sections

See section 8 for use of personal protection equipment. See section 13 for waste disposal after cleaning.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling of the substance or mixture

| | |
|--|--|
| Additional hazards associated with handling: | Avoid contact with skin and eyes. No open fire, no sparks; do not smoke. |
| Precautions for safe handling of the substance or mixture: | Wash hands and other exposed parts using gentle soap and water before eating, drinking, smoking or leaving the work environment. Make sure there is adequate ventilation in the handling area in order to prevent evaporation. |

7.2. Safe storage conditions, including incompatible products

| | |
|--------------------------|--|
| Storage conditions: | Keep away from moisture. Keep containers closed when not in use. Store in a cool, dry, well-ventilated area. |
| Incompatible substances: | Strong alkalines. Strong acids. |
| Incompatible substances: | Remove all sources of ignition. Protect the product from direct sunlight. |

7.3. Specific end use(s)



industrial.

SECTION 8: Measures to Control Exposure/Personal Protection

8.1. Control parameters

No additional information available

8.2. Measures to control exposure

| | |
|----------------------------------|--|
| Suitable technical measures: | Provide the area with local drainage/outlet or general ventilation. Keep away from sources of ignition. Emergency eye baths and safety showers should be installed in the vicinity of all exposure hazard areas. |
| Personal protective equipment: | Avoid unnecessary exposure. Gloves. Safety goggles.   |
| Hand protection: | The manufacturer can provide the exact penetration time; bear this in mind at all times. Standard EN 374 - Gloves for protection against chemicals. Select glove material according to penetration times, rates of diffusion and the degradation. As a result of failed tests, no recommendation for glove material can be given for the product/ the preparation/ the chemical mixture. The choice of suitable gloves depends not only on the material, but also on other quality characteristics, and varies from one manufacturer to another. |
| Eye protection: | Safety goggles. Use protective eyewear that meets EN 166 requirements and which is designed to protect against dust particles. |
| Protection for the skin and body | Use suitable safety clothing/equipment. |
| Respiratory protection: | Respiratory protection is recommended if exposure carries a risk of inhalation. No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. |
| Other information: | Do not eat, drink or smoke during use. Avoid contact with skin and eyes. Do not inhale the substance. |

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SECTION 9: Physical and Chemical Properties.

9.1. Information about basic physical and chemical properties

| | |
|--|------------------------------|
| Physical state: | Solid |
| Appearance: | Powder |
| Colour: | Silver Grey |
| Odour: | Odourless |
| Odour threshold: | No data available |
| pH: | No data available |
| Relative evaporation rate (butyl acetate=1): | No data available |
| Melting point: | No data available |
| Coagulation/freezing point: | No data available |
| Boiling point: | No data available |
| Flash point: | No data available |
| Auto-ignition temperature: | No data available |
| Thermolysis temperature: | No data available |
| Flammability (solid, gas): | Not flammable |
| Vapour pressure: | No data available |
| Relative vapour density at 20 °C: | No data available |
| Relative density: | No data available |
| Solubility: | Product not soluble in water |
| Log Pow: | No data available |
| Viscosity, kinematic: | No data available |
| Viscosity, dynamic: | No data available |
| Explosive properties: | No data available |
| Oxidising properties: | No data available |
| Explosion points: | No data available |

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9.2. Other information

No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal circumstances.

10.3. Potentially hazardous reactions

Hazardous polymerisation: None.

10.4. Conditions to avoid

Air, Damp.

10.5. Chemically incompatible materials

Strong acids. Strong alkalines.

10.6. Hazardous decomposition products

Flammable hydrogen gas may be released on contact with metallic substances.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

| | |
|------------------------------------|---|
| Acute toxicity: | Not classified |
| Skin corrosion/irritation: | Not classified Classification criteria are not met based on available data |
| Serious eye damage/irritation: | Not classified Classification criteria are not met based on available data |
| Respiratory or skin sensitisation: | Not classified Classification criteria are not met based on available data |
| Germ cell mutagenicity: | Not classified Classification criteria are not met based on available data |
| Carcinogenicity: | Not classified Classification criteria are not met based on available data |
| Reproduction toxicity: | Not classified Classification criteria are not met based on available data |
| STOT-single exposure: | Not classified Classification criteria are not met based on available data |

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| | |
|---|---|
| STOT-repeated exposure: | Not classified Classification criteria are not met based on available data |
| Inhalation hazard: | Not classified Classification criteria are not met based on available data |
| Potential hazardous effects on human health and potential symptoms: | Classification criteria are not met based on available data |

SECTION 12: Ecological Information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

Mixture of Aluminium oxide powder - Aluminium powder - Zinc powder

Persistence and degradability | Not classified

Aluminium oxide powder (1344-28-1)

Persistence and degradability | Not classified

12.3. Bioaccumulation

Mixture of Aluminium oxide powder - Aluminium powder - Zinc powder

Bioaccumulation | Not classified

Aluminium oxide powder (1344-28-1)

Bioaccumulation | Not classified

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and zPzB assessments

No additional information available

12.6. Other adverse effects

Avoid discharge into the environment

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SECTION 13: Disposal instructions

13.1. Waste treatment methods

| | |
|-------------------------------------|--|
| Recommendations for waste disposal: | Dispose of safely and in accordance with local/national regulations. |
| Ecology - waste products: | Avoid discharge into the environment. |

SECTION 14: Disposal instructions

In accordance with ADR/ RID / IMDG/ IATA regulations.

14.1. UN number

| | |
|----------------|----------------|
| UN no.: | Not classified |
| UN no. (IATA): | Not classified |
| UN no. (IMDG): | Not classified |
| UN no. (ADN): | Not classified |

14.2. Correct shipping name in accordance with the UN Model Regulations

| | |
|-----------------------|-----------|
| Correct shipping name | ZINC DUST |
|-----------------------|-----------|

14.3. Transport hazards class

| | |
|---------------------------|---|
| Class (VN): | - |
| Classification code (VN): | - |
| Class (IATA): | - |
| Class (IMDG): | - |
| Class (ADN): | - |
| Hazard labels (UN): | - |

14.4. Packing group

| | |
|---------------------|---|
| Packing group (UN): | - |
|---------------------|---|

14.5. Environmental hazards

| | |
|--------------------|-------------------------------------|
| Other information: | No additional information available |
|--------------------|-------------------------------------|

14.6. Special precautions for the user

This material is tested according to UN criteria and is classified as non-flammable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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SECTION 15: Regulations

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU regulations

No limitations in accordance with Annex XVII of REACH
Do not contain REACH substance candidate list

15.1.2. National regulations

No additional information available

15.2. Chemical safety evaluation

No chemical safety evaluation has been conducted

SECTION 16: Other Information

| | |
|--------------------|--|
| Sources of data: | EC Regulation no. 1272/2008 OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 16 December 2008 re. the classification, labelling and packing of substances and mixtures as amended and repealed in Regulation 67/548/EEC and 1999/45/EC and as amended in EC Regulation no. 1907/2006. |
| Other information: | REACH Declaration: All information is based on current knowledge. Consistency of the information listed in this Safety Data Sheet with the information in the Chemical Safety Report is considered to the extent available at the time of compilation (see version number and date of revision). EXCLUSION OF LIABILITY The information provided in this sheet has been gathered from sources which, to the best of our knowledge, are reliable. However, the information was provided without any express or implied regarding its correctness. Conditions regarding the handling, storage, use or disposal of the product fall beyond the scope of our control and also possibly beyond the scope of our knowledge. For this and other reasons, we shall not assume any responsibility for, and expressly disclaim liability for, any loss, damage or expense whatsoever resulting from the handling, storage, use or disposal of the product. |

For total content of R, H and EUH phrases:

| | |
|----------------|--|
| Flam. Sol. 1 | Flammable solids, Category 1 |
| Water-react. 2 | Substances and mixtures which develop flammable gases when in contact with water, Categories 2 |
| H228 | Flammable solid |
| H261 | Flammable gases released when in contact with water |
| R11 | Highly flammable |
| R15 | Forms extremely flammable gas when in contact with water |
| F | Highly flammable |

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purpose of the health, safety and environmental aspects of its use. It should therefore not be regarded as a guarantee for any specific property of the product.