MIXTURE OF ALUMINIUM OXIDE POWDER - NICKEL POWDER - ZINC POWDER

Date of Issue: 23-08-2022 **Date of Revision:** **Powder Number: LPP.K-714** **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-714

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]

Skin Sens. 1	H317
Carc. 2	H351
STOT RE 1	H372
Aquatic Chronic 3	H412

For total text of H phrases: see section 16

Harmful physical-chemical, health and environmental effects
No additional information available

2.2. Label elements	
Hazard pictograms (CLP):	 GHS08 GHS07
Signal word (CLP):	Hazard
Hazardous elements:	Nickel powder
Hazard indication (CLP):	H317 - Can cause an allergic skin reaction H351 - Thought to be carcinogenic (on inhalation) H372 - Long term or repeated exposure causes damage to organs H412 - Poisonous to aquatic organisms, with long-term consequences
Safety recommendations (CLP):	P201 - Consult special instructions before use P202 - Use only after you have read and understood all safety instructions P260 - Do not inhale substance P264 - Wash hands, lower arms and face after working with this product. P270 - Do not eat, drink or smoke during use van this product P272 - Soiled clothing may not be removed from the area.

2.3. Other hazards	
Other hazards not included in the classification:	No additional information available

SECTION 3: Composition of And Information About Ingredients

3.1. Substances
Not applicable

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3.2. Mixture			
Name	**Product identification**	**%**	**Classification as laid down in Directive 67/548/EEC**
Nickel powder (99% pure)	(CAS no.) 7440-02-0 (EG no) 231-111-4 (EU-Identification number) 028-002-01-4	48 - 52	Carc.Cat.3; R40 T; R48/23 R43 R52/53
Aluminium oxide powder (99.4% pure)	(CAS no.) 1344-28-1 (EC no.) 215-691-6 (REACH no.) 01-2119529248-35	33 - 37	Not classified
Zink 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 as laid down in Directive 67/548/EEC**
Nickel powder (99% pure)	(CAS no.) 7440-02-0 (EG no) 231-111-4 (EU-Identification number) 028-002-01-4	48 - 52	Carc. 2, H351 STOT RE 1, H372 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Aluminium oxide powder (99.4% pure)	(CAS no.) 1344-28-1 (EC no.) 215-691-6 (REACH no.) 01-2119529248-35	33 - 37	Not classified
Zink 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

For total content of R and H phrases: see section 16

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. Consult a physician.
First aid following contact with skin:	Remove soiled clothing and wash or shower skin with plenty of water (for 15 minutes). Consult a physician if necessary. Wash with plenty of soap and water. Wash soiled clothing before reusing.
First aid following contact with eyes:	Rinse immediately with plenty of water. Seek medical assistance if pain or redness persists. Lift eyelids using fingers and flush the eyes with plenty of water.
First aid following ingestion:	Rinse the mouth thoroughly with water. Drink two glasses of water. Consult a physician immediately. Induce vomiting if the victim is conscious.

4.2. Main acute and delayed symptoms and effects	
Symptoms/injuries following inhalation:	Can cause irritation of the airways. Metal fume fever. Asthmatic symptoms.
Symptoms/injuries following contact with skin:	Skin irritation. Can cause allergic reactions
Symptoms/injuries following contact with eyes:	May cause eye irritation.
Symptoms/injuries following ingestion:	Diarrhoea. Irritation.

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.

5.2. Special hazards arising from the substance or mixture	
Fire hazard:	No Fire hazard. Can form a flammable and explosive dust-air mixture.
Explosion hazard:	No immediate explosion hazard.

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:	Can form a flammable dust-air mixture. Make sure there is adequate ventilation.
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, informed the responsible authorities in accordance with local regulations. Avoid discharge into the environment.

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 eyes and skin and do not inhale vapour and mist. Avoid creating dust.
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. P202 - Use only after you have read and understood all safety instructions No open fire. Smoking prohibited. Avoid contact with air.
Hygienic measures:	P272 - Soiled clothing may not be removed from the area. Wash soiled clothing before reusing. Do not eat, drink or smoke when using this product. Wash hands and other exposed parts using gentle soap and water before eating, drinking, smoking or leaving the work environment.

7.2. Safe storage conditions, including incompatible products	
Storage conditions:	Store in accordance with local regulations. Store in a cool, dry, well-ventilated area. Keep containers closed when not in use.
Incompatible substances:	Keep away from incompatible materials (see Section 10).
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		
Nickel powder		
THE NETHERLANDS	MAC TGG 8H (mg/m^3)	0,1 mg/m^3

8.2. Measures to control exposure	
Suitable technical measures:	Provide the area with adequate ventilation in order to limit dust concentration to a minimum. Emergency eye baths and safety showers should be installed in the vicinity of all exposure hazard areas. Do not exceed exposure limits (VLE/MAC).
Personal protective equipment:	Avoid unnecessary exposure. Gloves. Safety goggles. Wear suitable protective clothing. Use respirator in the event of significant dust formation. 
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. The choice of suitable gloves depends not only on the material, but also on other quality characteristics, and varies from one manufacturer to another. As a result of failed tests, no recommendation for glove material can be given for the product/ the preparation/ the chemical mixture. Select glove material according to penetration times, rates of diffusion and the degradation.
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:	Wear suitable protective clothing.

Other information:	Do not eat, drink or smoke during use.

SECTION 9: Physical and Chemical Properties.

9.1. Information about basic physical and chemical properties	
Physical state:	Solid
Appearance:	Powder
Colour:	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:	No data available
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

9.2. Other information

No additional information available.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No additional information available.

10.2. Chemical stability

The product is stable under normal handling and storage conditions. Stable at room temperature and with normal use.

10.3. Potentially hazardous reactions

Hazardous polymerisation: None.

10.4. Conditions to avoid

Store and use away from heat, sparks, open flame or any other ignition source.

10.5. Chemically incompatible materials

Avoid contact with combustible materials, acids, oxidizing agents, halogenated hydrocarbons.

10.6. Hazardous decomposition products

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

SECTION 11: Toxological Information

11.1. Information on toxological effects

Acute toxicity:	Not classified

Mixture of Aluminium oxide powder - Nickel powder - Zinc powder	
LD50 oral rat	> 9000 mg/kg

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:	Can cause allergic reactions
Germ cell mutagenicity:	Not classified Classification criteria are not met based on available data
Carcinogenicity:	H351 - Thought to be carcinogenic (on inhalation)
Reproduction toxicity:	Not classified Classification criteria are not met based on available data

Mixture of Aluminium oxide powder - Nickel powder - Zinc powder	
STOT-single exposure:	Can cause allergic reactions
STOT-repeated exposure:	H372 - Long term or repeated exposure causes damage to organs
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	
Ecology - waste products	H411 - Poisonous to aquatic organisms, with long-term consequences

12.2. Persistence and degradability	
Mixture of Aluminum oxide powder - Nickel powder - Zinc powder	
Persistence and degradability	Can have long-term adverse effects on the environment.
Aluminum oxide powder (1344-28-1)	
Persistence and degradability	Not classified

12.3. Bioaccumulation	
Mixture of Aluminum oxide powder - Nickel powder - Zinc powder	
Bioaccumulation	Not classified
Aluminum 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

SECTION 13: Disposal instructions

13.1. Waste treatment methods	
Recommendations for waste disposal	Dispose of safely and in accordance with local/national regulations. P501 - Dispose of content/packaging at a recognised waste disposal centre
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 regulated
UN no. (IATA)	Not regulated
UN no. (IMDG)	Not regulated
UN no. (ADN)	Not regulated

14.2. Correct shipping name in accordance with the UN Model Regulations	
Correct shipping name	-
Transport document description	-

14.3. Transport hazards class	
Class (VN)	-
Classification code (VN)	-
Class (IATA)	-
Class (IMDG)	-
Class (ADN)	-

14.4. Packing group	
Packing group (UN)	-

14.5. Environmental hazards	
Environmentally hazardous	
Other information	No additional information available

14.6. Special precautions for the user	
Transport within the users premisis	always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

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.

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For total content of R, H and EUH phrases:

Aquatic Acute 1	Acute danger for the aquatic environment, Category 1
Aquatic Chronic 1	Chronic danger for the aquatic environment, Category 1
Aquatic Chronic 2	Chronic danger for the aquatic environment, Category 2
Aquatic Chronic 3	Chronic danger for the aquatic environment, Category 3
Carc. 2	Carcinogenicity, Category 2
Skin Sens. 1	Skin sensitivity, Category 1
STOT RE 1	Specific target organ toxicity on repeated exposure, Category 1
H317	Can cause allergic reactions
H351	Thought to be carcinogenic
H372	Long term or repeated exposure causes damage to organs
H400	Highly poisonous to aquatic organisms
H410	Highly poisonous to aquatic organisms, with long-term consequences.
H411	Poisonous to aquatic organisms, with long-term consequences
H412	Poisonous to aquatic organisms, with long-term consequences
R40	Possible carcinogenic effects
R43	Can cause oversensitivity reactions following contact with skin
R48/23	Toxic: danger of serious damage to health as a result of prolonged exposure through inhalation
R50/53	Highly poisonous to aquatic organisms; can have long-term adverse effects on the aquatic environment.
R51/53	Poisonous to aquatic organisms; can have long-term adverse effects on the aquatic environment.
R52/53	Harmful to aquatic organisms; can have long-term adverse effects on the aquatic environment.
N	Environmentally hazardous
T	Toxic

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.