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SAFETY DATA SHEET

Aluminium Oxide

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1. Product identifier

Aluoxyd

Additional information:
Do not use for private purposes (household).

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

Use of the substance/mixture:
Industriell
Observe technical data sheet.

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):
C.Hecht & Co BV
Samsonweg 57
1521 RB Wormerveer, the Netherlands
Telephone: +31 (0) 75-6475040
Telefax: +31 (0) 75-6475041
E-mail:info@hecht.nl
Website: www.hecht.nl

1.4. Emergency telephone number

Giftinforamtionszentrum Nord, 24h: +49 (0) 551 /19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Germ cell mutagenicity *(Muta. 2)*	H341: Suspected of causing genetic defects.	
Carcinogenicity *(Carc. 1A)*	H350i: May cause cancer by inhalation.	
Reproductive toxicity *(Repr. 1A)*	H360D: May damage the unborn child.	
STOT-repeated exposure *(STOT RE 1)*	H372: Causes damage to organs through prolonged or repeated exposure.	
Hazardous to the aquatic environment *(Aquatic Acute 1)*	H400: Very toxic to aquatic life.	
Hazardous to the aquatic environment *(Aquatic Chronic 1)*	H410: Very toxic to aquatic life with long lasting effects.	

Classification according to Directive 67/548/EEC or 1999/45/EC:
T, N

2.2. Label elements

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

Hazard pictograms:

GHS08
Health hazard

GHS05
Corrosion

GHS09
Environment

Signal word: Danger

Hazard components for labelling:
Contains nickel constituents. SELENATES or SELENITES Copper

hazard statements for health hazards	
H302 + H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360D	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

hazard statements for environmental hazards	
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Supplemental Hazard information (EU): -

Precautionary statements Prevention	
P202	Do not handle until all safety precautions have been read and understood.
P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements Response	
P308	IF exposed or concerned:
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P313	Get medical advice/attention.

Precautionary statements Storage	
P405	Store locked up.

Precautionary statements Disposal	
P501	Dispose of contents/container to ....

Labelling (67/548/EEC or 1999/45/EC)

Hazard pictograms:

T
Toxic

N
Dangerous for the environment

Hazard statements	
R20/22	Harmful by inhalation and if swallowed.
R36/38	Irritating to eyes and skin.
R42/43	May cause sensitization by inhalation and skin contact.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R49	May cause cancer by inhalation.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.
R68	Possible risk of irreversible effects.

Precautionary statements	
S3/7	Keep container tightly closed in a cool place.
S20/21	When using do not eat, drink or smoke.
S23.5	Do not breathe aerosol.
S27/28.1	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
S36	Wear suitable protective clothing.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards
No data available

SECTION 3: Composition / information on ingredients

3.2. Mixtures
Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to 67/548/EEC Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration
CAS No.: 7758-98-7 **EC No.:** 231-847-6	**copper sulphate** Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1 **Warning** H302-H315-H319-H410 Xn; R22 — Xi; R36/38 — N; R50-R53	< 8 %
CAS No.: 7783-00-8 **EC No.:** 231-974-7	**selenious acid** Acute Tox. 3, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1 **Danger** H410 T, N R23/25, R33, R50/53	< 4 %
CAS No.: 7664-38-2 **EC No.:** 231-633-2	**orthophosphoric acid** Skin Corr. 1B **Danger** H314 C; R34	< 3 %
CAS No.: 16872-11-0 **EC No.:** 240-898-3	**tetrafluoroboric acid** Skin Corr. 1B **Danger** H314 C; R34	< 2 %

Product identifiers	Substance name Classification according to 67/548/EEC Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration
CAS No.: 7786-81-4 **EC No.:** 232-104-9	**nickel sulphate** Repr. 1B, Acute Tox. 4, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1, Muta. 2, Carc. 1A, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1  **Danger** H302-H315-H317-H332-H334-H341-H350i-H360D-H372-H410 M-factor: 1  Carc. Cat. 1; R49 — Muta. Cat. 3; R68 — Repr. Cat. Fruchtb. 2; R61 — T; R48/23 — Xn; R20/22 — Xi; R38 — R42/43 — N; R50-R53	< 1 %

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Following inhalation:
Remove casualty to fresh air and keep warm and at rest. In case of inhaling spray mist, consult a physician. After inhaling vapours, first symptoms of poisoning may develop hours later, so always consult a doctor. Provide fresh air.

In case of skin contact:
Wash immediately with: Water Remove contaminated, saturated clothing immediately. In case of skin irritation, consult a physician.

After eye contact:
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion:
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

Self-protection of the first aider:
First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed
No data available

4.3. Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media:
no restriction

5.2. Special hazards arising from the substance or mixture
Non-combustible corrosive substances (liquid)

5.3. Advice for firefighters
No data available

5.4. Additional information
No data available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:
Wear protective gloves/protective clothing and eye/face protection.

Protective equipment:
Material, acid-resistant

6.1.2. For emergency responders

Personal protection equipment:
Wear a self-contained breathing apparatus and chemical protective clothing.

6.2. Environmental precautions
No data available

6.3. Methods and material for containment and cleaning up

Other information:
Suitable material for diluting or neutralizing: Lime water

6.4. Reference to other sections
No data available

6.5. Additional information
No data available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
Personal protection equipment: see section 8

Fire prevent measures:
Usual measures for fire prevention.

Measures to prevent aerosol and dust generation:
Do not use for sputtering or spraying.

7.2. Conditions for safe storage, including any incompatibilities
No data available

7.3. Specific end use(s)
No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ remark
DFG (DE)	copper sulphate CAS No.: 7758-98-7	① 0.01 mg/m³ ② 0.02 mg/m³ ⑤ (alveolengängige Fraktion)
IOELV (EU)	orthophosphoric acid CAS No.: 7664-38-2	① 1 mg/m³ ② 2 mg/m³
TRGS 900 (DE)	orthophosphoric acid CAS No.: 7664-38-2	① 2 mg/m³ ② 4 mg/m³ ⑤ (einatembare Fraktion)

8.1.2. biological limit values
No data available

8.1.3. DNEL-/PNEC-values
No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls
No data available

8.2.2. Personal protection equipment

Eye/face protection:
goggles, Face protection umbrella

Skin protection:
Suitable gloves type: PVC (Polyvinyl chloride) NBR (Nitrile rubber) acid-resistant

Respiratory protection:
Respiratory protection necessary at: insufficient exhaust, aerosol or mist formation. Suitable respiratory protection apparatus: Particle filter device (DIN EN 143) ABEK-P2

Other protection measures:
Before starting work, apply water-resistant skincare preparations.

8.2.3. Environmental exposure controls
No data available

8.3. Additional information
No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid
Colour: light blue
Odour: odourless

Safety relevant basis data

		at °C	Method	remark
pH	< 1			
Melting point/freezing point	*not determined*			
Freezing point	*not determined*			
Initial boiling point and boiling range	≥ 100 °C			
Decomposition temperature (°C):	*not determined*			
Flash point	*not applicable*			
Evaporation rate	*not applicable*			
Ignition temperature in °C	*not applicable*			
Upper/lower flammability or explosive limits	*not applicable*			
Vapour pressure	*not determined*			
Vapour density	*not determined*			
Density	≈ 1.1 g/cm³	20 °C		
Bulk density	*not applicable*			
Water solubility (g/L)	completely miscible			
Partition coefficient: n-octanol/ water	*not applicable*			
Dynamic viscosity	*not determined*			
Kinematic viscosity	*not determined*			

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability
No data available

10.3. Possibility of hazardous reactions
Alkali (lye)

10.4. Conditions to avoid
Do not expose to temperatures above 50 °C.

10.5. Incompatible materials
Metal, base

10.6. Hazardous decomposition products
No data available

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute oral toxicity:
There are no data available on the preparation/mixture itself.

Acute dermal toxicity:
There are no data available on the preparation/mixture itself.

Aluoxyd

Acute inhalation toxicity:
There are no data available on the preparation/mixture itself.

Skin corrosion/irritation:
There are no data available on the preparation/mixture itself.

Eye damage/irritation:
Yes.

Respiratory or skin sensitisation:
Yes.

Germ cell mutagenicity:
To be regarded to induce heritable mutations in the germ cells of humans.

Carcinogenicity:
Known human carcinogens.

Reproductive toxicity:
Presumed human reproductive toxicant.

STOT-single exposure:
There are no data available on the preparation/mixture itself.

STOT-repeated exposure:
There are no data available on the preparation/mixture itself.

Aspiration hazard:
There are no data available on the preparation/mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity:
There are no data available on the preparation/mixture itself.

Sediment toxicity:
Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary.

Effects in sewage plants:
Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary.

12.2. Persistence and degradability

Abiotic degradation:
Heavy metals

12.3. Bioaccumulative potential

Bioconcentration factor (BCF):
There are no data available on the preparation/mixture itself.

Partition coefficient: n-octanol/water:
not applicable

Accumulation / Evaluation:
There are no data available on the preparation/mixture itself.

12.4. Mobility in soil

not determined

12.5. Results of PBT and vPvB assessment

There are no data available on the preparation/mixture itself.

12.6. Other adverse effects

There are no data available on the preparation/mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Dispose of waste according to applicable legislation.

Waste treatment options

Appropriate disposal / Product:
Dispose of waste according to applicable legislation.

Appropriate disposal / Package:
Handle contaminated packages in the same way as the substance itself.

13.2. Additional information
No data available

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
3264	3264	3264	3264
14.2. UN proper shipping name			
Ätzender saurer anorganischer flüssiger Stoff, n.a.g. (Phosphorsäure-Fluororborsäure-Lösung)	Ätzender saurer anorganischer flüssiger Stoff, n.a.g. (Phosphorsäure-Fluororborsäure-Lösung)	Corrosive liquid, acidic, inorganic, n.o.s. (phosphoric-fluoroboracid-mixture)	Corrosive liquid, acidic, inorganic, n.o.s. (phosphoric-fluoroboracid-mixture)
14.3. Transport hazard class(es)			
 8	 8	 8	 8
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
		 MARINE POLLUTANT	-

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.6. Special precautions for user			
Special provisions: **Limited quantity (LQ):** 5 L **Hazard identification number (Kemler No.):** 80 **Classification code:** C1 **tunnel restriction code:** E **remark:**	**Special provisions:** **Limited quantity (LQ):** **Classification code:** - **remark:**	**Special provisions:** **Limited quantity (LQ):** 5 L **EmS-No.:** F-A; S-B **remark:**	**Special provisions:** **Limited quantity (LQ):** **remark:**

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No data available

SECTION 15: Regulatory information

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

15.1.1. EU legislation
No data available

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

annex Chemikalien-Verbotsverordnung (ChemVerbotsV)
Do not sell or give to persons under the age of 18 years.

Technische Regeln für Gefahrstoffe
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Relevante arbeitsmedizinische Vorschriften
Preventive medical check-ups have to be offered to the users of this product.

15.2. Chemical Safety Assessment
No data available

15.3. Additional information
No data available

SECTION 16: Other information

16.1. Indication of changes
No data available

16.2. Abbreviations and acronyms
No data available

16.3. Key literature references and sources for data
No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 [CLP]

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Germ cell mutagenicity *(Muta. 2)*	H341: Suspected of causing genetic defects.	
Carcinogenicity *(Carc. 1A)*	H350i: May cause cancer by inhalation.	
Reproductive toxicity *(Repr. 1A)*	H360D: May damage the unborn child.	
STOT-repeated exposure *(STOT RE 1)*	H372: Causes damage to organs through prolonged or repeated exposure.	
Hazardous to the aquatic environment *(Aquatic Acute 1)*	H400: Very toxic to aquatic life.	
Hazardous to the aquatic environment *(Aquatic Chronic 1)*	H410: Very toxic to aquatic life with long lasting effects.	

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements (R-phrases)	
R20/22	Harmful by inhalation and if swallowed.
R22	Harmful if swallowed.
R23/25	Toxic by inhalation and if swallowed.
R33	Danger of cumulative effects.
R34	Causes burns.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R42/43	May cause sensitization by inhalation and skin contact.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R49	May cause cancer by inhalation.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.
R68	Possible risk of irreversible effects.

Hazard statements	
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.

Hazard statements	
H360D	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

16.6. Training advice
No data available

16.7. Additional information
No data available