

SAFETY DATA SHEETS

This SDS packet was issued with item:

071048263

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

071365204 071379288

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

071048156 071048164 071048172 071048248

MATERIAL SAFETY DATA SHEET



4011 Hyde Park Blvd.
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JANUARY 2013

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME

GAMMA B, ALPHA A, ALPHA C - ALUMINA POWDERS

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: White odorless powder.

POTENTIAL HEALTH

EFFECTS EYES: May
irritate eyes.

SKIN: Not absorbed through skin; may cause abrasions.

INGESTION: No known adverse effects, but ingestion is not recommended.

INHALATION: Acute: Coughing, shortness of breath. Chronic: May affect breathing capacity.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

CHRONIC EFFECTS: No adverse effects expected.

MEDICAL CONDITIONS AGGRAVATED: Not expected to be a health hazard.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Aluminum oxide	> 99	1344-28-1	215-691-6

SECTION 4. FIRST AID MEASURES

EYES: Irrigate with large amounts of water. Obtain medical assistance.

SKIN: Wash with soap and water. Get medical attention if irritation develops or persists.

INGESTION: Obtain first aid or medical assistance, if needed.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Get immediate medical attention.

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SECTION 5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Applicable

GENERAL HAZARD: Not considered to be a fire hazard.

EXTINGUISHING MEDIA: Use any means suitable for extinguishing surrounding fire.

EXPLOSION HAZARDS: Not expected to be an explosion hazard.

FIRE FIGHTING PROCEDURES: Use protective clothing and breathing equipment appropriate for the surrounding fire and to control aluminum oxide dust that may be dispersed in the air.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Normal cleanup procedures, using respirators if necessary. Dispose using applicable federal, state, and local laws.

LARGE SPILL: Normal cleanup procedures, using respirators if necessary. Dispose using applicable federal, state, and local laws.

SECTION 7. HANDLING AND STORAGE

GENERAL PROCEDURES: Handle with adequate ventilation for nuisance dust. See OSHA 29CFR1910.94 (Ventilation) and 29CFR1910.1000 (Air Contaminants).

STORAGE: Store in a cool dry place.

SHELF LIFE: Indefinite.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
Aluminum oxide	TWA	NL ppm ^[1]	15;5 mg/m ³ ^[1]	NL ppm	10 mg/m ³	NL ppm	NL mg/m ³
	STEL	NL ppm	NL mg/m ³	NL ppm	NL mg/m ³	NL ppm	NL mg/m ³
OSHA TABLE COMMENTS: 1. NL = Not Listed							

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PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Eye protection is recommended, please see OSHA 29CFR1910.133.

SKIN: Protective gloves, as desired by user.

RESPIRATORY: As needed, an approved dust respirator should be used; see OSHA 29CFR1910.134.

SECTION 9 . PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name Solubility in

Water Specific

Gravity

Aluminum oxide Insoluble 3.9

PHYSICAL STATE: Solid

ODOR: None

APPEARANCE: Fine Powder

COLOR: White

pH: Not Applicable

PERCENT VOLATILE: None

VAPOR PRESSURE: Not Applicable VAPOR DENSITY: Not Applicable BOILING POINT: Not Applicable FREEZING POINT:

Not Applicable MELTING POINT: 2000°C

FLASHPOINT AND METHOD: Not Applicable

SOLUBILITY IN WATER: Insoluble

EVAPORATION RATE: Not Applicable

SPECIFIC GRAVITY: 3.600 to 3.9

VISCOSITY: Not Applicable

WASTE DISPOSAL	Comply with Federal, State and Local Regulations.
HANDLING & STORAGE	Avoid direct sunlight during prolonged storage.
OTHER	HMIS: HEALTH=1 Slight; FLAMMABILITY=0 Minimal;
SECTION VIII-SPECIAL PROTECTION INFORMATION	
VENTILATION	MECHANICAL-Adequate ventilation to reduce levels of
SPECIFIC PERSONAL PROTECTIVE EQUIPMENT	
RESPIRATORY:	Use NIOSH/MSHA approved respirator where dust may
EYE:	Chemical splash goggles.
GLOVES:	Rubber or neoprene gloves.
OTHER CLOTHING & EQUIPMENT	Barrier cream recommended for persons with unusual
WORK-HYGIENIC PRACTICES	Wash thoroughly after handling.

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SECTION 10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: Stable under ordinary conditions of use and storage.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: No Applicable Information Found

INCOMPATIBLE MATERIALS: Chlorine trifluoride, Ethylene oxide.

SECTION 11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Irritation likely to occur after human eye contact.

SKIN EFFECTS: This material may cause skin sensitization.

CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
Aluminum oxide	Not known or anticipated to be and NTP carcinogen.	Not listed.	Not listed.

IARC: Not listed.

NTP: Not known or anticipated to be an NTP Carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No Applicable Information Found

ECOTOXICOLOGICAL INFORMATION: No Applicable Information Found

CHEMICAL FATE INFORMATION: No Applicable Information Found

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA/EPA WASTE INFORMATION: Not federally regulated.

SECTION 14. DISPOSAL CONSIDERATIONS

DOT (DEPARTMENT OF TRANSPORTATION) U.S. SURFACE FREIGHT CLASS: Not regulated.

OTHER SHIPPING INFORMATION: Not classified as a marine pollutant.

CANADA TRANSPORT OF DANGEROUS GOODS TDG NOTE: Not regulated.

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SECTION 15. DISPOSAL CONSIDERATIONS

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: None

FIRE: No PRESSURE GENERATING: No REACTIVITY: No ACUTE: Yes CHRONIC: No

313 REPORTABLE INGREDIENTS: Not listed

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT) CERCLA

REGULATORY: Not listed

TSCA (TOXIC SUBSTANCE CONTROL ACT)

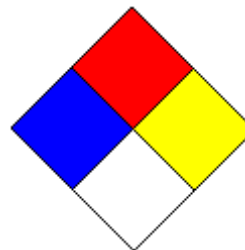
Chemical Name	CAS
Aluminum oxide	1344-28-1

TSCA REGULATORY: Not listed

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Listed.

NFPA CODES



CleanStream

Product code: 1295-1

1. Identification

Product identifier

CleanStream

Use of the substance/mixture

Cleaner

Details of the supplier of the safety data sheet

Company name: Air Techniques, Inc.
Street: 1295 Walt Whitman Road,
Place: USA Melville, NY 11747
Telephone: 516-433-7676
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

Emergency phone number: for US and Canada: 1-800 424-9300 (CHEMTREC)

2. Hazard(s) identification

Classification of the chemical

This mixture is not classified as hazardous in accordance with Regulation 29 CFR 1910.1200(d).

Label elements

Not required.

Hazards not otherwise classified

No data available.

3. Composition/information on ingredients

Mixtures

Chemical characterization

Aqueous preparation of the following substances with non-hazardous admixtures.

Hazardous components

CAS No	Components	Quantity
26468-86-0	2-Ethylhexanol ethoxylate	3 - 10 %
28348-53-0	Sodium cumene sulfonate	1 - 5 %
64-02-8	tetrasodium ethylene diamine tetraacetate	1 - 3 %

4. First-aid measures

Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

If threatening unconsciousness, position and transport in recovery position.

In case of breathing difficulties give oxygen.

After inhalation

Ensure of fresh air.

In the event of persistent symptoms receive medical treatment.

After contact with skin

In case of contact with skin wash off with soap and water.

Consult a doctor if skin irritation persists.

After contact with eyes

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

If eye irritation persists consult a physician

After ingestion

Do not induce vomiting.

Summon a doctor immediately.

CleanStream

Product code: 1295-1

Most important symptoms and effects, both acute and delayed

OSHA Hazard Communication: This material is not considered hazardous by the OSHA Hazard Communication Standard 29CFR 1910.1200.

Indication of any immediate medical attention and special treatment needed

Treat symptoms.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Foam, Dry powder, Carbon dioxide, Sand.

Unsuitable extinguishing media

Full water jet.

Specific hazards arising from the chemical

Combustion gases of organic material are usually classified as respiratory toxins.

Special protective equipment and precautions for fire-fighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases can only be done with breathing apparatus.

Additional information

Cool containers at risk with water spray jet.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep away from heat and sources of ignition.

Attention. Hazard of skidding.

Environmental precautions

Do not discharge into the drains or bodies of water.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up

Take up with absorbent material.

Send in suitable containers for recovery or disposal.

After taking up the material dispose according to regulation.

Reference to other sections

Information for safe handling look up chapter 7.

Information for personal protective equipment look up chapter 8.

Information for disposal look up chapter 13.

Information for specific national regulations see section 15.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice.

When using do not eat or drink.

Avoid contact with the skin and the eyes.

Do not breathe vapours or spray mist.

Wash hands before breaks and at the end of workday.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep containers tightly closed in a dry, well-ventilated place.

Protect from heat and direct solar radiation.

Advice on storage compatibility

No information available.

8. Exposure controls/personal protection

Control parameters

Exposure controls

Protective and hygiene measures

Handle in accordance with good industrial hygiene and safety practices.

Avoid contact with the skin.

Cloths contaminated with product should not be kept in trouser pockets.

At work do not eat, drink, smoke or take drugs.

Before work use solvent-resistant skin protection preparation.

Eye/face protection

Safety goggles

Hand protection

Gloves made of nitrile. Neoprene gloves

Glove material must be impermeable and resistant against product / substance / preparation. Gloves material should comply with breakthrough times, permeation rates, and degradation.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection

Light protective clothing

Respiratory protection

Not required under normal use.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Color:	Clear Blue green
Odor:	Aromatic
pH-Value:	7.0-8.0
pH-Value (2% Solution):	7.0-8.0

Changes in the physical state

Melting point/freezing point:	No information available.
Initial boiling point and boiling range:	>100 °C
Flash point:	Not applicable.
Flammability	No information available.
Explosive properties	No information available.
Lower explosion limits:	No information available.
Ignition temperature:	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature:	No information available.
Oxidizing properties	No information available.
Vapor pressure:	No information available.
Density (at 20 °C):	1.0 g/cm ³
Water solubility:	Completely soluble
Solubility in other solvents	No information available.
Partition coefficient:	No information available.
Viscosity / dynamic:	No information available.
Viscosity / kinematic:	No information available.
Vapor density:	No information available.
Evaporation rate:	No information available.

Other information

No information available.

10. Stability and reactivity

Reactivity

No data available.

Chemical stability

Stability: Stable

Chemically stable.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

No data available.

Conditions to avoid

To avoid thermal decomposition, do not overheat.

Incompatible materials

Not known.

Hazardous decomposition products

Carbon monoxide and carbon dioxide

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Skin and eye contact, inhalation and ingestion.

Acute toxicity

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

CAS No	Components				
	Exposure route	Method	Dose	Species	Source
28348-53-0	Sodium cumene sulfonate				
	oral	LD50	> 7000 mg/kg	Rat	
	dermal	LD50	> 2000 mg/kg	Rabbit	
64-02-8	tetrasodium ethylene diamine tetraacetate				
	oral	ATE	500 mg/kg		
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1.5 mg/l		

Irritation and corrosivity

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

Eye irritation (rabbit): Non-irritant, OECD 405.

Sensitizing effects

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

Specific target organ toxicity (STOT) - single exposure

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

Severe effects after repeated or prolonged exposure

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

Carcinogenicity (NTP): Not listed

Carcinogenicity (IARC): Not listed

Carcinogenicity (OSHA): Not listed

Aspiration hazard

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

12. Ecological information

Ecotoxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No data available.

Further information

Do not flush into surface water or sanitary sewer system.
Hazardous water pollutant.

13. Disposal considerations

Waste treatment methods

Advice on disposal

Where possible recycling is preferred to disposal.
Waste disposal according to local regulations.

Contaminated packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of like the product.
Waste disposal according to local regulations.

14. Transport information

US DOT 49 CFR 172.101

Proper shipping name: Not regulated.

15. Regulatory information

U.S. Regulations

National Inventory TSCA

All of the components are listed on the TSCA inventory.

National regulatory information

SARA Section 311/312 Hazards:

2-Ethylhexanol ethoxylate (26468-86-0): Immediate (acute) health hazard

Sodium cumene sulfonate (28348-53-0): Immediate (acute) health hazard

tetrasodium ethylene diamine tetraacetate (64-02-8): Immediate (acute) health hazard

SARA

To the best of our knowledge this product contains no toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372.

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)

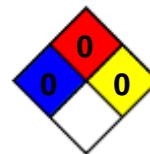
Health:	0
Flammability:	0
Physical Hazard:	0

CleanStream

Product code: 1295-1

NFPA Hazard Ratings

Health: 0
Flammability: 0
Reactivity: 0
Unique Hazard:



Changes

Revision date: 09.06.2016
Revision No: 1,1
Changes in section: 1 - 16.

Abbreviations and acronyms

IMDG = International Maritime Code for Dangerous Goods
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
MARPOL = International Convention for the Prevention of Pollution from Ships
DOT = Department of Transportation
TDG = Transport of Dangerous Goods

GHS = Globally Harmonized System of Classification and Labelling of Chemicals
CAS = Chemical Abstract Service
ISO = International Organization for Standardization
LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Other data

The information in this document is based on the present state of knowledge and is applicable to the product with regard to appropriate safety precautions.
The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
(n.a. = not applicable; n.d. = not determined)

Concawe Report 5/87 Health Aspects of Lubricants DGMK-Bericht 400-7.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

SAFETY DATA SHEET

EMERGENCY CONTACT

1-800-255-3924

revision date 4/7/2016



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SECTION 1 – IDENTIFICATION

1.1 Product identifier: Alumina Powders

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified as hazardous according to OSHA GHS regulations within the United States.

The product is not classified as hazardous according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

Additional information:

There are no other hazards not otherwise classified that have been identified.

0 percent of the mixture consists of component(s) of unknown toxicity

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is not classified as hazardous according to OSHA GHS regulations within the United States. This product does not have a classification according to the CLP regulation.

Hazard pictograms Not Regulated

Signal word Not Regulated

Hazard-determining components of labelling: None.

Hazard statements Not Regulated

Hazard-determining components of labelling: None.

Hazard statements Not Regulated

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revision date 4/7/2016



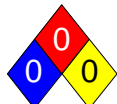
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Precautionary statements Not Regulated

Hazard description:

WHMIS-symbols: Not hazardous under WHMIS.

NFPA ratings (scale 0 - 4)



Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 0
Fire = 0
Reactivity = 0

HMIS Long Term Health Hazard Substances

None of the ingredients are listed.

- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3. Composition/information on ingredients

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

• Dangerous components:		
CAS: 1344-28-1 EINECS: 215-691-6	aluminium oxide substance with a Community workplace exposure limit	98,7%
CAS: 1305-78-8 EINECS: 215-138-9	calcium oxide R37/38-41 Eye Dam. 1, H318 Skin Irrit. 2, H315; STOT SE 3, H335	< 0,3%
CAS: 1309-37-1 EINECS: 215-168-2	diiron trioxide / iron (III) oxide substance with a Community workplace exposure limit	< 0,2%

Additional information:

For the listed ingredients, the identity and exact percentages are being withheld as a trade secret. For the wording of the listed risk phrases refer to section 16.

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4. FIRST AID MEASURES

• 4.1 Description of first aid measures

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Brush off loose particles from skin.
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
- **After eye contact:**
Remove contact lenses if worn, if possible.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.

• 4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulty
Coughing
Slight irritant effect on skin and mucous membranes.
Slight irritant effect on eyes.

- **Hazards** Danger of impaired breathing.

• 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Firefighting measures

• 5.1 Extinguishing media

• Suitable extinguishing agents:

The product is not flammable.
Use fire extinguishing methods suitable to surrounding conditions.

• For safety reasons unsuitable extinguishing agents: None.

• 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.
Wear fully protective suit.

Additional information No further relevant information available.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Avoid formation of dust.
Do not breathe dust.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions: Avoid release to the environment.

6.3 Methods and material for containment and cleaning up:

Pick up mechanically.
Dispose of the material collected according to regulations.

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Send for recovery or disposal in suitable receptacles.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handling

Use only in well ventilated areas.

Prevent formation of dust.

Any unavoidable deposit of dust must be regularly removed.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility:

Store away from foodstuffs.

Do not store together with acids.

Do not store together with alkalis (caustic solutions).

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

8. Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:	
1344-28-1 aluminium oxide	
PEL (USA)	Long-term value: 15*; 15** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction
EL (Canada)	Long-term value: 1,0 mg/m ³ respirable, as Al
EV (Canada)	Long-term value: 10 mg/m ³ total dust
1305-78-8 calcium oxide	
PEL (USA)	Long-term value: 5 mg/m ³
REL (USA)	Long-term value: 2 mg/m ³
TLV (USA)	Long-term value: 2 mg/m ³
EL (Canada)	Long-term value: 2 mg/m ³
EV (Canada)	Long-term value: 2 mg/m ³

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1309-37-1 diiron trioxide / iron (III) oxide

PEL (USA)	Long-term value: 10* 15** 5*** mg/m ³ *Fume; Rouge: **Total dust, ***respirable
REL (USA)	Long-term value: 5 mg/m ³ Dust & fume, as Fe
TLV (USA)	Long-term value: 5* mg/m ³ *as respirable fraction
EL (Canada)	Short-term value: 10** mg/m ³ Long-term value: 5* 10*** 3**** mg/m ³ *dust & fume**fume; Rouge: ***total dust****resp.
EV (Canada)	Long-term value: 5* 10** mg/m ³ *respirable, including Rouge;**total dust

DNELs No further relevant information available.

PNECs No further relevant information available.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed.

Do not breathe dust.

Avoid contact with the eyes and skin.

Respiratory protection:

Not required under normal conditions of use.

Use suitable respiratory protective device when high concentrations are present. For large spills, respiratory protection may be advisable.

Protection of hands:

Wear gloves for the protection against mechanical hazards according to NIOSH or EN 388.

Eye protection:



Safety glasses

Body protection:

Not required under normal conditions of use. Protection may be required for spills.

Limitation and supervision of exposure into the environment Avoid release to the environment.

Risk management measures See Section 7 for additional information.

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9. Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information

Appearance:

Form: Crystalline powder
Colour: Whitish
Odour: Odorless
Odour threshold: Not determined.

pH-value at 20 °C (68 °F): 8,0-9,5

Change in condition

Melting point/Melting range: >2000 °C (>3632 °F)
Boiling point/Boiling range: >2900 °C (>5252 °F)

Flash point: Not applicable.
Flammability (solid, gaseous): Not determined.
Auto/Self-ignition temperature: Not determined.
Decomposition temperature: Not determined.
Self-igniting: Product is not self-igniting.
Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.
Upper: Not determined.

Vapor pressure: Not applicable.

Density at 20 °C (68 °F): 3,9 g/cm³ (32,546 lbs/gal)
Relative density Not determined.
Vapor density Not applicable.
Evaporation rate Not applicable.

Solubility in / Miscibility with water:

Insoluble.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not applicable.
Kinematic: Not applicable.

9.2 Other information

No further relevant information available.

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10. Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Reacts with strong acids and alkali.

Reacts with strong oxidising agents.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials:

Oxidizers, strong bases, strong acids

10.6 Hazardous decomposition products:

Toxic metal compounds

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification: None.

Primary irritant effect:

on the skin: Slight irritant effect on skin and mucous membranes.

on the eye: Slight irritant effect on eyes.

Sensitisation: No sensitising effects known.

Subacute to chronic toxicity: No further relevant information available.

Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

Acute effects (acute toxicity, irritation and corrosivity): None.

Repeated dose toxicity: No further relevant information available.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction): None.

12. Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Generally not hazardous for water

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

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13. Disposal considerations

13.1 Waste treatment methods

Recommendation

Smaller quantities can be disposed of with household waste.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

14. Transport information

14.1 UN-Number

DOT, ADR, ADN, IMDG, IATA Not Regulated

14.2 UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not Regulated

14.3 Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA
Class Not Regulated

14.4 Packing group

DOT, ADR, IMDG, IATA Not Regulated

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBCCode Not applicable.

UN "Model Regulation":

15. Regulatory information

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

United States (USA)

SARA

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

All ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

Present in trace quantities.

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Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenic Categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

1309-37-1 diiron trioxide / iron (III) oxide

3

TLV (Threshold Limit Value established by ACGIH)

1344-28-1 aluminium oxide

A4

1309-37-1 diiron trioxide / iron (III) oxide

A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL)

All ingredients are listed.

Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients are listed.

Canadian Ingredient Disclosure list (limit 1%)

All ingredients are listed.

Other regulations, limitations and prohibitive regulations

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients are listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

R37/38 Irritating to respiratory system and skin.

R41 Risk of serious damage to eyes.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods DOT:

US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

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ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3