



**Russian Mining
Chemical Company**

Material Safety Data Sheets

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Material Safety Data Sheet

Russian Mining Chemical Company LLC

According to regulation EU 2020/878

Revision date: 04-10-2021

Version number: 10

Valid from: 04-10-2021



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

1.1. Product identifier:

Trade name: Ecopiren NA, Ecopiren NAA

Product Form: Powder

Synonyms: Brucite, magnesium hydroxide

EINECS No: 215 - 170 - 3

CAS No: 1317 - 43 - 7

Molecular Weight: 58.3

Chemical Formula: Mg(OH)₂

Registration number: not applicable (see section 15)

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

Use:

- flame retardant

Uses advised against

(if any, by the supplier): None

1.3. Details of the supplier of the safety data sheet:

Russian Mining Chemical Company LLC,
115093, Russia, Moscow, Pavlovskaya street 7/1

1.4. Emergency Telephone number:

+7 (495) 789-65-30

SECTION 2 - Hazards Identification

2.1. Classification of the substance or mixture:

Classification in accordance with Regulation (EU) 1272/2008

Not classified

2.2. Label elements:

Labelling (REGULATION (EC) No 1272/2008)

Precautionary statements

Prevention

P260 Do not breathe dust.

2.3. Other hazards:

Formation of dust is possible.

PBT: not relevant - no registration required.

vPvB: not relevant - no registration required.

SECTION 3 - Composition / Information on ingredients

3.1. Substances:

Substance Name	CAS No	Content	Product identifier according to 1272/2008/EC	R-phrases	REACH registration
Brucite	1317 - 43 - 7	98,5 - 99,5 %	none	none	Exempted in annex V
Amino Silane	Confidential	0,5 – 1,5%	none	none	Full registration

SECTION 4 - First aid measures

4.1. Description of first aid measures:

Seek medical assistance if feeling unwell.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact: Wash with plenty of water. Wash contaminated clothing.

Eye contact: Rinse out with plenty of water. Do not rub eyes.

Ingestion: Rinse out mouth with plenty of water and spit out the fluid. After swallowing large amounts: induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed:

Inhalation: Dust can cause temporary irritation of upper respiratory tract.

Skin contact: Can cause irritation, drying, chapping,

Eye contact: Can cause irritation, redness, tearing, burning.

Ingestion: In large quantities causes irritation, nausea and gastrointestinal upset.

4.3. Indication of any immediate medical attention and special treatment needed:

not appropriate

SECTION 5 - Firefighting measures

5.1. Extinguishing Media:

Suitable extinguishing media: No limitations. Adjust extinguishing media to the surrounding fire.

5.2. Special Hazards arising from the substance or mixture:

The substance is not combustible, not explosive and not flammable.
Magnesium hydroxide has a flame retardant effect.

5.3. Advice for firefighters:

Use extinguishing media most appropriate for the surrounding fire.
Firefighters should wear the usual protective clothing and self-contained breathing apparatus.

SECTION 6 - Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Do not inhale dust. Avoid generation of dust, skin contact and eye contact.

6.2. Environmental precautions: Avoid to enter large quantities in sewerage system.

6.3. Methods and material for containment and cleaning up:

Collect spillage with a shovel and put into a closed container. Clean up affected surface with dry method (or flush with water). Avoid generation of dust.
Dispose in accordance with official regulations.

6.4. Reference to other sections: not appropriate

SECTION 7 - Handling and storage

7.1. Precautions for safe handling:

Avoid any operation leading to the formation of excess of dust.
Observe the exposure limit values in accordance with regulation.
Avoid inhaling dust and fumes when in their presence or ingestion of the product.
Wash after handling thoroughly every surface of the body that has come into contact with the product.
Do not eat, drink or smoke when using the product.
Clean working area frequently to avoid buildup of dust.

7.2. Conditions for safe storage, including any incompatibilities:

Dry storage required. Protect from moisture. Keep containers closed.
Storage temperature: no restrictions.
Avoid contact with incompatibles mentioned under item 10.

7.3. Specific end use(s): No information available

SECTION 8 - Exposure controls / Personal protection

8.1. Control parameters:

Germany (Allgemeiner Staubgrenzwert):

10 mg/m ³	einatembare Staubfraktion, E-Staub (inhalable dust)
3 mg/ m ³	alveolengängige Staubfraktion, A-Staub (respirable dust)

Netherlands (MAC):

	10 mg/ m ³	inhaleerbaar stof (inhalable dust)
	5 mg/ m ³	respirabel stof (respirable dust)
USA:		
ACGIH (TLV-TWA)	10 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
OSHA (PEL-TWA)	15 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
United Kingdom:		
	10 mg/ m ³	inhalable dust
	4 mg/ m ³	respirable dust
Finland, Spain, Italy, Zwitserland:		
	10 mg/ m ³	inhalable dust
	3 mg/ m ³	respirable dust
Australia, Austria, Sweden, France, Denmark:		
	10 mg/ m ³	inhalable dust
	5 mg/ m ³	respirable dust
Other countries:	Please inform at your national authorities.	

8.2. Exposure controls:

Appropriate Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep air-borne levels below recommended exposure limits (see section 8.1).

Individual Protection Measures:

Eye / face protection: Use safety glasses with side protection complying with an approved standard

Hand protection: Impervious protective gloves are recommended complying with an approved standard

Skin protection: It is recommended to wear impervious clothing and shoes to prevent repeated or prolonged skin contact.

Respiratory protection: Wear dust mask (minimum filter type P2) complying with an approved standard

Thermal hazards: not identified

Environmental exposure controls: no information available

SECTION 9 - Physical and chemical parameters

9.1. Information on basic physical and chemical properties:

Physical state:	solid, granule or powder
Colour:	white
Odour:	odourless
Melting point/freezing point:	not applicable, decomposition at 350°C
Boiling point or initial boiling point and boiling range:	not applicable, decomposition at 350°C
Flammability:	not flammable
Lower and upper explosion limit:	not applicable
Flash point:	not applicable
Auto-ignition	not applicable

temperature:	
Decomposition temperature:	ca 350°C
pH:	ca. 10 (10 % suspension in water)
Kinematic viscosity:	not applicable (solid)
Solubility:	
in water (20°C):	almost insoluble
in alcohols:	insoluble
Partition coefficient n-octanol/water (log value):	not applicable
Vapour pressure:	not applicable (not volatile)
Relative density:	Bulk (loose) density 350 - 1000 g/l (depending on the grade and grain-size)
Relative vapour density:	not applicable (not volatile)
Evaporation rate:	not applicable
Explosive limits:	not applicable
Viscosity:	not applicable (solid)
Explosive properties:	not explosive
Oxidizing properties:	not applicable

9.2. Other information:

9.2.1 Information with Regard to Physical Hazard Classes: none

9.2.2 Other Safety Characteristics: none

SECTION 10 - Stability and reactivity

10.1. *Reactivity:* Reacts vigorously with strong acids.

10.2. *Chemical Stability:*

Chemically stable up to the decomposition temperature. Above 350°C decomposition to magnesium oxide and water.

10.3. *Possibility of hazardous Reactions:* see 10.1.

10.4. *Conditions to avoid:* No information available

10.5. *Incompatible materials:* See 10.1.

10.6. *Hazardous decomposition products:*

No hazardous decomposition products: decomposes to magnesium oxide and water.

SECTION 11 - Toxicological information

General information:

Not classified as dangerous goods under Regulation (EU) 1272/2008

11.1. *Information on toxicological effects:*

Acute toxicity:	None
Skin corrosion / irritation:	Not absorbed by intact skin. Intimate contact of the skin with magnesium hydroxide can cause temporary irritation, drying and chapping.
Serious eye damage / irritation:	Can cause temporary eye irritation.

Respiratory or skin sensitation:	Short-term inhalation of magnesium hydroxide dust or fume can cause temporary irritation of upper respiratory tract, nose and skin.
Germ cell mutagenicity:	No known studies. Not considered to be mutagenic in general.
Carcinogenicity:	Substance is not classified as carcinogenic under ACGIH, NIOSH, IARC, NTP or OSHA.
Reproductive toxicity:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

11.2. Information on other hazards

11.2.1 Endocrine disrupting properties: no information available

11.2.2 Other information: Alkalinity: Being a mild alkali is mainly the cause for irritation of body tissues.

SECTION 12 - Ecological information

12.1. Toxicity:

As natural occurring mineral (brucite) magnesium hydroxide forms little risk to the environment.

12.2. Persistence and degradability:

Magnesium hydroxide is nearly insoluble in water. By reaction with acids and neutralization magnesium hydroxide is slowly degraded.

12.3. Bio accumulative potential:

Due to its ionic nature it is not a candidate for bioaccumulation.

12.4. Mobility in soil: Low because of the structure and physicochemical characteristics.

12.5. Results of PBT and vPvB assessment: No information available

12.6 Endocrine disrupting properties: Not applicable

12.7. Other adverse effects: Not identified

SECTION 13 - Disposal considerations

Chemical residues generally are considered as special waste. Therefore we recommend to contact the authorities in charge or approved waste disposal companies how to dispose of the waste. The disposal has to be done in compliance with national and regional regulations.

13.1 Waste treatment methods: Disposal must be done according to official regulations. Do not discharge into drains or the environment. Do not dispose of domestic waste.

SECTION 14 - Transport information

14.1. UN number or ID number:	Not listed
14.2. UN proper shipping name:	Not listed
14.3. Transport Hazard Class:	None
14.4. Packing group:	Not applicable

14.5. <i>Environmental hazards:</i>	None
14.6. <i>Special precautions for user:</i>	None
14.7. <i>Maritime transport in bulk according to IMO instruments:</i>	Not applicable

SECTION 15 – Regulatory information

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

Europe:

Contains no REACH substances with Annex XVII restrictions.

Contains no substances on the REACH candidate list.

Contains no REACH Annex XIV substances.

Contains no substances subjected to Regulation (EU) No 649/2012 of the European Parliament of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substances subjected to Regulation (EU) No 2019/1021 of the European Parliament of the Council of 20 June 2019 on persistent organic pollutants.

The substance is exempted from the obligation to register according to Regulation 1907/2006 (REACH) as natural magnesium hydroxide is a mineral occurring in nature. See Regulation 987/2008: annex 5, item 7.

USA:

US Federal Regulations:

No additional information available

US State Regulations:

No additional information available

Turkey:

The substance is exempted from the obligation to register according to Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK) forced on 23.12.2017 by Ministry of Environment and Urban Planning, Turkey as natural magnesium hydroxide is a mineral occurring in nature. See annex V.

15.2. *Chemical safety assessment* Not applicable

SECTION 16 - Other information

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information in this Safety Data Sheet is based on our present knowledge and experience. The Safety Data Sheet characterizes the product with regard to the appropriate safety precautions. The information does not represent a guarantee of the properties of the product.

Party Responsible for the Preparation of This Document

Russian Mining Chemical Company LLC
115093, Russia, Moscow, Pavlovskaya street 7/1
Emergency telephone number: +7 (495) 789-65-30

Material Safety Data Sheet

Russian Mining Chemical Company LLC

According to regulation EU 2020/878

Revision date: 04-10-2021

Version number: 10

Valid from: 04-10-2021



RMCC

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

1.1. Product identifier:

Trade name: Ecopiren NP, Ecopiren NPA

Product Form: Powder

Synonyms: Brucite, magnesium hydroxide

EINECS No: 215 - 170 - 3

CAS No: 1317 - 43 - 7

Molecular Weight: 58.3

Chemical Formula: Mg(OH)₂

Registration number: not applicable (see section 15)

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

Use:

- flame retardant

Uses advised against

(if any, by the supplier): None

1.3. Details of the supplier of the safety data sheet:

Russian Mining Chemical Company LLC,
115093, Russia, Moscow, Pavlovskaya street 7/1

1.4. Emergency Telephone number:

+7 (495) 789-65-30

SECTION 2 - Hazards Identification

2.1. Classification of the substance or mixture:

Classification in accordance with Regulation (EU) 1272/2008

Not classified

2.2. Label elements:

Labelling (REGULATION (EC) No 1272/2008)

Precautionary statements

Prevention

P260 Do not breathe dust.

2.3. Other hazards:

Formation of dust is possible.

PBT: not relevant - no registration required.

vPvB: not relevant - no registration required.

SECTION 3 - Composition / Information on ingredients

3.1. Substances:

Substance Name	CAS No	Content	Product identifier according to 1272/2008/EC	R-phrases	REACH registration
Brucite	1317 - 43 - 7	98,5 - 99,5 %	none	none	Exempted in annex V
Alkyl Silane	Confidential	0,5 – 1,5%	none	none	Full registration

SECTION 4 - First aid measures

4.1. Description of first aid measures:

Seek medical assistance if feeling unwell.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact: Wash with plenty of water. Wash contaminated clothing.

Eye contact: Rinse out with plenty of water. Do not rub eyes.

Ingestion: Rinse out mouth with plenty of water and spit out the fluid. After swallowing large amounts: induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed:

Inhalation: Dust can cause temporary irritation of upper respiratory tract.

Skin contact: Can cause irritation, drying, chapping,

Eye contact: Can cause irritation, redness, tearing, burning.

Ingestion: In large quantities causes irritation, nausea and gastrointestinal upset.

4.3. Indication of any immediate medical attention and special treatment needed:

not appropriate

SECTION 5 - Firefighting measures

5.1. Extinguishing Media:

Suitable extinguishing media: No limitations. Adjust extinguishing media to the surrounding fire.

5.2. Special Hazards arising from the substance or mixture:

The substance is not combustible, not explosive and not flammable.
Magnesium hydroxide has a flame retardant effect.

5.3. Advice for firefighters:

Use extinguishing media most appropriate for the surrounding fire.
Firefighters should wear the usual protective clothing and self-contained breathing apparatus.

SECTION 6 - Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Do not inhale dust. Avoid generation of dust, skin contact and eye contact.

6.2. Environmental precautions: Avoid to enter large quantities in sewerage system.

6.3. Methods and material for containment and cleaning up:

Collect spillage with a shovel and put into a closed container. Clean up affected surface with dry method (or flush with water). Avoid generation of dust.
Dispose in accordance with official regulations.

6.4. Reference to other sections: not appropriate

SECTION 7 - Handling and storage

7.1. Precautions for safe handling:

Avoid any operation leading to the formation of excess of dust.
Observe the exposure limit values in accordance with regulation.
Avoid inhaling dust and fumes when in their presence or ingestion of the product.
Wash after handling thoroughly every surface of the body that has come into contact with the product.
Do not eat, drink or smoke when using the product.
Clean working area frequently to avoid buildup of dust.

7.2. Conditions for safe storage, including any incompatibilities:

Dry storage required. Protect from moisture. Keep containers closed.
Storage temperature: no restrictions.
Avoid contact with incompatibles mentioned under item 10.

7.3. Specific end use(s): No information available

SECTION 8 - Exposure controls / Personal protection

8.1. Control parameters:

Germany (Allgemeiner Staubgrenzwert):

10 mg/m³ einatembare Staubfraktion, E-Staub (inhalable dust)

3 mg/ m³ alveolengängige Staubfraktion, A-Staub (respirable dust)

Netherlands (MAC):

10 mg/ m³ inhaleerbaar stof (inhalable dust)

	5 mg/ m ³	respirabel stof (respirable dust)
USA:		
ACGIH (TLV-TWA)	10 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
OSHA (PEL-TWA)	15 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
United Kingdom:		
	10 mg/ m ³	inhalable dust
	4 mg/ m ³	respirable dust
Finland, Spain, Italy, Zwitserland:		
	10 mg/ m ³	inhalable dust
	3 mg/ m ³	respirable dust
Australia, Austria, Sweden, France, Denmark:		
	10 mg/ m ³	inhalable dust
	5 mg/ m ³	respirable dust
Other countries:	Please inform at your national authorities.	

8.2. Exposure controls:

Appropriate Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep air-borne levels below recommended exposure limits (see section 8.1).

Individual Protection Measures:

Eye / face protection: Use safety glasses with side protection complying with an approved standard

Hand protection: Impervious protective gloves are recommended complying with an approved standard

Skin protection: It is recommended to wear impervious clothing and shoes to prevent repeated or prolonged skin contact.

Respiratory protection: Wear dust mask (minimum filter type P2) complying with an approved standard

Thermal hazards: not identified

Environmental exposure controls: no information available

SECTION 9 - Physical and chemical parameters

9.1. Information on basic physical and chemical properties:

Physical state:	solid, granule or powder
Colour:	white
Odour:	odourless
Melting point/freezing point:	not applicable, decomposition at 350°C
Boiling point or initial boiling point and boiling range:	not applicable, decomposition at 350°C
Flammability:	not flammable
Lower and upper explosion limit:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable

Decomposition temperature:	ca 350°C
pH:	ca. 10 (10 % suspension in water)
Kinematic viscosity:	not applicable (solid)
Solubility:	
in water (20°C):	almost insoluble
in alcohols:	insoluble
Partition coefficient n-octanol/water (log value):	not applicable
Vapour pressure:	not applicable (not volatile)
Relative density:	Bulk (loose) density 350 - 1000 g/l (depending on the grade and grain-size)
Relative vapour density:	not applicable (not volatile)
Evaporation rate:	not applicable
Explosive limits:	not applicable
Viscosity:	not applicable (solid)
Explosive properties:	not explosive
Oxidizing properties:	not applicable

9.2. Other information:

9.2.1 Information with Regard to Physical Hazard Classes: none

9.2.2 Other Safety Characteristics: none

SECTION 10 - Stability and reactivity

10.1. Reactivity: Reacts vigorously with strong acids.

10.2. Chemical Stability:

Chemically stable up to the decomposition temperature. Above 350°C decomposition to magnesium oxide and water.

10.3. Possibility of hazardous Reactions: see 10.1.

10.4. Conditions to avoid: No information available

10.5. Incompatible materials: See 10.1.

10.6. Hazardous decomposition products:

No hazardous decomposition products: decomposes to magnesium oxide and water.

SECTION 11 - Toxicological information

General information:

Not classified as dangerous goods under Regulation (EU) 1272/2008

11.1. Information on toxicological effects:

Acute toxicity:	None
Skin corrosion / irritation:	Not absorbed by intact skin. Intimate contact of the skin with magnesium hydroxide can cause temporary irritation, drying and chapping.
Serious eye damage / irritation:	Can cause temporary eye irritation.

Respiratory or skin sensitation:	Short-term inhalation of magnesium hydroxide dust or fume can cause temporary irritation of upper respiratory tract, nose and skin.
Germ cell mutagenicity:	No known studies. Not considered to be mutagenic in general.
Carcinogenicity:	Substance is not classified as carcinogenic under ACGIH, NIOSH, IARC, NTP or OSHA.
Reproductive toxicity:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

11.2. Information on other hazards

11.2.1 *Endocrine disrupting properties:* no information available

11.2.2 *Other information:* Alkalinity: Being a mild alkali is mainly the cause for irritation of body tissues.

SECTION 12 - Ecological information

12.1. Toxicity:

As natural occurring mineral (brucite) magnesium hydroxide forms little risk to the environment.

12.2. Persistence and degradability:

Magnesium hydroxide is nearly insoluble in water. By reaction with acids and neutralization magnesium hydroxide is slowly degraded.

12.3. Bio accumulative potential:

Due to its ionic nature it is not a candidate for bioaccumulation.

12.4. *Mobility in soil:* Low because of the structure and physicochemical characteristics.

12.5. *Results of PBT and vPvB assessment:* No information available

12.6 *Endocrine disrupting properties:* Not applicable

12.7. *Other adverse effects:* Not identified

SECTION 13 - Disposal considerations

Chemical residues generally are considered as special waste. Therefore we recommend to contact the authorities in charge or approved waste disposal companies how to dispose of the waste. The disposal has to be done in compliance with national and regional regulations.

13.1 *Waste treatment methods:* Disposal must be done according to official regulations. Do not discharge into drains or the environment. Do not dispose of domestic waste.

SECTION 14 - Transport information

14.1. *UN number or ID number:* Not listed

14.2. *UN proper shipping name:* Not listed

14.3. *Transport Hazard Class:* None

14.4. *Packing group:* Not applicable

14.5. <i>Environmental hazards:</i>	None
14.6. <i>Special precautions for user:</i>	None
14.7. <i>Maritime transport in bulk according to IMO instruments:</i>	Not applicable

SECTION 15 – Regulatory information

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

Europe:

Contains no REACH substances with Annex XVII restrictions.

Contains no substances on the REACH candidate list.

Contains no REACH Annex XIV substances.

Contains no substances subjected to Regulation (EU) No 649/2012 of the European Parliament of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substances subjected to Regulation (EU) No 2019/1021 of the European Parliament of the Council of 20 June 2019 on persistent organic pollutants.

The substance is exempted from the obligation to register according to Regulation 1907/2006 (REACH) as natural magnesium hydroxide is a mineral occurring in nature. See Regulation 987/2008: annex 5, item 7.

USA:

US Federal Regulations:

No additional information available

US State Regulations:

No additional information available

Turkey:

The substance is exempted from the obligation to register according to Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK) forced on 23.12.2017 by Ministry of Environment and Urban Planning, Turkey as natural magnesium hydroxide is a mineral occurring in nature. See annex V.

15.2. *Chemical safety assessment* Not applicable

SECTION 16 - Other information

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information in this Safety Data Sheet is based on our present knowledge and experience. The Safety Data Sheet characterizes the product with regard to the appropriate safety precautions. The information does not represent a guarantee of the properties of the product.

Party Responsible for the Preparation of This Document

Russian Mining Chemical Company LLC
115093, Russia, Moscow, Pavlovskaya street 7/1
Emergency telephone number: +7 (495) 789-65-30

Material Safety Data Sheet

Russian Mining Chemical Company LLC

According to regulation EU 2020/878

Revision date: 04-10-2021

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

1.1. Product identifier:

Trade name: Ecopiren NV, Ecopiren NVA

Product Form: Powder

Synonyms: Brucite, magnesium hydroxide

EINECS No: 215 - 170 - 3

CAS No: 1317 - 43 - 7

Molecular Weight: 58.3

Chemical Formula: Mg(OH)₂

Registration number: not applicable (see section 15)

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

Use:

- flame retardant

Uses advised against

(if any, by the supplier): None

1.3. Details of the supplier of the safety data sheet:

Russian Mining Chemical Company LLC,
115093, Russia, Moscow, Pavlovskaya street 7/1

1.4. Emergency Telephone number:

+7 (495) 789-65-30

SECTION 2 - Hazards Identification

2.1. Classification of the substance or mixture:

Classification in accordance with Regulation (EU) 1272/2008

Not classified

2.2. Label elements:

Labelling (REGULATION (EC) No 1272/2008)

Precautionary statements

Prevention

P260 Do not breathe dust.

2.3. Other hazards:

Formation of dust is possible.

PBT: not relevant - no registration required.

vPvB: not relevant - no registration required.

SECTION 3 - Composition / Information on ingredients

3.1. Substances:

Substance Name	CAS No	Content	Product identifier according to 1272/2008/EC	R-phrases	REACH registration
Brucite	1317 - 43 - 7	98,5 - 99,5 %	none	none	Exempted in annex V
Vinyl Silane	Confidential	0,5 – 1,5%	none	none	Full registration

SECTION 4 - First aid measures

4.1. Description of first aid measures:

Seek medical assistance if feeling unwell.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact: Wash with plenty of water. Wash contaminated clothing.

Eye contact: Rinse out with plenty of water. Do not rub eyes.

Ingestion: Rinse out mouth with plenty of water and spit out the fluid. After swallowing large amounts: induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed:

Inhalation: Dust can cause temporary irritation of upper respiratory tract.

Skin contact: Can cause irritation, drying, chapping,

Eye contact: Can cause irritation, redness, tearing, burning.

Ingestion: In large quantities causes irritation, nausea and gastrointestinal upset.

4.3. Indication of any immediate medical attention and special treatment needed:

not appropriate

SECTION 5 - Firefighting measures

5.1. Extinguishing Media:

Suitable extinguishing media: No limitations. Adjust extinguishing media to the surrounding fire.

5.2. Special Hazards arising from the substance or mixture:

The substance is not combustible, not explosive and not flammable.
Magnesium hydroxide has a flame retardant effect.

5.3. Advice for firefighters:

Use extinguishing media most appropriate for the surrounding fire.
Firefighters should wear the usual protective clothing and self-contained breathing apparatus.

SECTION 6 - Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Do not inhale dust. Avoid generation of dust, skin contact and eye contact.

6.2. Environmental precautions: Avoid to enter large quantities in sewerage system.

6.3. Methods and material for containment and cleaning up:

Collect spillage with a shovel and put into a closed container. Clean up affected surface with dry method (or flush with water). Avoid generation of dust.
Dispose in accordance with official regulations.

6.4. Reference to other sections: not appropriate

SECTION 7 - Handling and storage

7.1. Precautions for safe handling:

Avoid any operation leading to the formation of excess of dust.
Observe the exposure limit values in accordance with regulation.
Avoid inhaling dust and fumes when in their presence or ingestion of the product.
Wash after handling thoroughly every surface of the body that has come into contact with the product.
Do not eat, drink or smoke when using the product.
Clean working area frequently to avoid buildup of dust.

7.2. Conditions for safe storage, including any incompatibilities:

Dry storage required. Protect from moisture. Keep containers closed.
Storage temperature: no restrictions.
Avoid contact with incompatibles mentioned under item 10.

7.3. Specific end use(s): No information available

SECTION 8 - Exposure controls / Personal protection

8.1. Control parameters:

Germany (Allgemeiner Staubgrenzwert):

10 mg/m³ einatembare Staubfraktion, E-Staub (inhalable dust)

3 mg/ m³ alveolengängige Staubfraktion, A-Staub (respirable dust)

Netherlands (MAC):

10 mg/ m³ inhaleerbaar stof (inhalable dust)

	5 mg/ m ³	respirabel stof (respirable dust)
USA:		
ACGIH (TLV-TWA)	10 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
OSHA (PEL-TWA)	15 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
United Kingdom:		
	10 mg/ m ³	inhalable dust
	4 mg/ m ³	respirable dust
Finland, Spain, Italy, Zwitserland:		
	10 mg/ m ³	inhalable dust
	3 mg/ m ³	respirable dust
Australia, Austria, Sweden, France, Denmark:		
	10 mg/ m ³	inhalable dust
	5 mg/ m ³	respirable dust
Other countries:	Please inform at your national authorities.	

8.2. Exposure controls:

Appropriate Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep air-borne levels below recommended exposure limits (see section 8.1).

Individual Protection Measures:

Eye / face protection: Use safety glasses with side protection complying with an approved standard

Hand protection: Impervious protective gloves are recommended complying with an approved standard

Skin protection: It is recommended to wear impervious clothing and shoes to prevent repeated or prolonged skin contact.

Respiratory protection: Wear dust mask (minimum filter type P2) complying with an approved standard

Thermal hazards: not identified

Environmental exposure controls: no information available

SECTION 9 - Physical and chemical parameters

9.1. Information on basic physical and chemical properties:

Physical state:	solid, granule or powder
Colour:	white
Odour:	odourless
Melting point/freezing point:	not applicable, decomposition at 350°C
Boiling point or initial boiling point and boiling range:	not applicable, decomposition at 350°C
Flammability:	not flammable
Lower and upper explosion limit:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable

Decomposition temperature:	ca 350°C
pH:	ca. 10 (10 % suspension in water)
Kinematic viscosity:	not applicable (solid)
Solubility:	
in water (20°C):	almost insoluble
in alcohols:	insoluble
Partition coefficient n-octanol/water (log value):	not applicable
Vapour pressure:	not applicable (not volatile)
Relative density:	Bulk (loose) density 350 - 1000 g/l (depending on the grade and grain-size)
Relative vapour density:	not applicable (not volatile)
Evaporation rate:	not applicable
Explosive limits:	not applicable
Viscosity:	not applicable (solid)
Explosive properties:	not explosive
Oxidizing properties:	not applicable

9.2. Other information:

9.2.1 Information with Regard to Physical Hazard Classes: none

9.2.2 Other Safety Characteristics: none

SECTION 10 - Stability and reactivity

10.1. *Reactivity:* Reacts vigorously with strong acids.

10.2. *Chemical Stability:*

Chemically stable up to the decomposition temperature. Above 350°C decomposition to magnesium oxide and water.

10.3. *Possibility of hazardous Reactions:* see 10.1.

10.4. *Conditions to avoid:* No information available

10.5. *Incompatible materials:* See 10.1.

10.6. *Hazardous decomposition products:*

No hazardous decomposition products: decomposes to magnesium oxide and water.

SECTION 11 - Toxicological information

General information:

Not classified as dangerous goods under Regulation (EU) 1272/2008

11.1. *Information on toxicological effects:*

Acute toxicity:	None
Skin corrosion / irritation:	Not absorbed by intact skin. Intimate contact of the skin with magnesium hydroxide can cause temporary irritation, drying and chapping.
Serious eye damage / irritation:	Can cause temporary eye irritation.

Respiratory or skin sensitation:	Short-term inhalation of magnesium hydroxide dust or fume can cause temporary irritation of upper respiratory tract, nose and skin.
Germ cell mutagenicity:	No known studies. Not considered to be mutagenic in general.
Carcinogenicity:	Substance is not classified as carcinogenic under ACGIH, NIOSH, IARC, NTP or OSHA.
Reproductive toxicity:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

11.2. Information on other hazards

11.2.1 Endocrine disrupting properties: no information available

11.2.2 Other information: Alkalinity: Being a mild alkali is mainly the cause for irritation of body tissues.

SECTION 12 - Ecological information

12.1. Toxicity:

As natural occurring mineral (brucite) magnesium hydroxide forms little risk to the environment.

12.2. Persistence and degradability:

Magnesium hydroxide is nearly insoluble in water. By reaction with acids and neutralization magnesium hydroxide is slowly degraded.

12.3. Bio accumulative potential:

Due to its ionic nature it is not a candidate for bioaccumulation.

12.4. Mobility in soil: Low because of the structure and physicochemical characteristics.

12.5. Results of PBT and vPvB assessment: No information available

12.6 Endocrine disrupting properties: Not applicable

12.7. Other adverse effects: Not identified

SECTION 13 - Disposal considerations

Chemical residues generally are considered as special waste. Therefore we recommend to contact the authorities in charge or approved waste disposal companies how to dispose of the waste. The disposal has to be done in compliance with national and regional regulations.

13.1 Waste treatment methods: Disposal must be done according to official regulations. Do not discharge into drains or the environment. Do not dispose of domestic waste.

SECTION 14 - Transport information

14.1. UN number or ID number:	Not listed
14.2. UN proper shipping name:	Not listed
14.3. Transport Hazard Class:	None
14.4. Packing group:	Not applicable

14.5. <i>Environmental hazards:</i>	None
14.6. <i>Special precautions for user:</i>	None
14.7. <i>Maritime transport in bulk according to IMO instruments:</i>	Not applicable

SECTION 15 – Regulatory information

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

Europe:

Contains no REACH substances with Annex XVII restrictions.

Contains no substances on the REACH candidate list.

Contains no REACH Annex XIV substances.

Contains no substances subjected to Regulation (EU) No 649/2012 of the European Parliament of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substances subjected to Regulation (EU) No 2019/1021 of the European Parliament of the Council of 20 June 2019 on persistent organic pollutants.

The substance is exempted from the obligation to register according to Regulation 1907/2006 (REACH) as natural magnesium hydroxide is a mineral occurring in nature. See Regulation 987/2008: annex 5, item 7.

USA:

US Federal Regulations:

No additional information available

US State Regulations:

No additional information available

Turkey:

The substance is exempted from the obligation to register according to Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK) forced on 23.12.2017 by Ministry of Environment and Urban Planning, Turkey as natural magnesium hydroxide is a mineral occurring in nature. See annex V.

15.2. *Chemical safety assessment* Not applicable

SECTION 16 - Other information

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information in this Safety Data Sheet is based on our present knowledge and experience. The Safety Data Sheet characterizes the product with regard to the appropriate safety precautions. The information does not represent a guarantee of the properties of the product.

Party Responsible for the Preparation of This Document

Russian Mining Chemical Company LLC
115093, Russia, Moscow, Pavlovskaya street 7/1
Emergency telephone number: +7 (495) 789-65-30

Material Safety Data Sheet

Russian Mining Chemical Company LLC

According to regulation EU 2020/878

Revision date: 04-10-2021

Version number: 10

Valid from: 04-10-2021



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

1.1. Product identifier:

Trade name: Ecopiren C, Ecopiren CA, Ecopiren CN, Ecopiren CR, Ecopiren LC, Ecopiren LCA, Ecopiren LCR

Product Form: Powder

Synonyms: Brucite, magnesium hydroxide

EINECS No: 215 - 170 - 3

CAS No: 1317 - 43 - 7

Molecular Weight: 58.3

Chemical Formula: Mg(OH)₂

Registration number: not applicable (see section 15)

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

Use:

- flame retardant

Uses advised against

(if any, by the supplier): None

1.3. Details of the supplier of the safety data sheet:

Russian Mining Chemical Company LLC,
115093, Russia, Moscow, Pavlovskaya street 7/1

1.4. Emergency Telephone number:

+7 (495) 789-65-30

SECTION 2 - Hazards Identification

2.1. Classification of the substance or mixture:

Classification in accordance with Regulation (EU) 1272/2008

Not classified

2.2. Label elements:

Labelling (REGULATION (EC) No 1272/2008)

Precautionary statements

Prevention

P260 Do not breathe dust.

2.3. Other hazards:

Formation of dust is possible.

PBT: not relevant - no registration required.

vPvB: not relevant - no registration required.

SECTION 3 - Composition / Information on ingredients

3.1. Substances:

Substance Name	CAS No	Content	Product identifier according to 1272/2008/EC	R-phrases	REACH registration
Brucite	1317 - 43 - 7	97,5 - 99,5 %	none	none	Exempted in annex V
Stearic acid	67701-03-5	0,5 - 2,5 %	none	none	Full registration

SECTION 4 - First aid measures

4.1. Description of first aid measures:

Seek medical assistance if feeling unwell.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact: Wash with plenty of water. Wash contaminated clothing.

Eye contact: Rinse out with plenty of water. Do not rub eyes.

Ingestion: Rinse out mouth with plenty of water and spit out the fluid. After swallowing large amounts: induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed:

Inhalation: Dust can cause temporary irritation of upper respiratory tract.

Skin contact: Can cause irritation, drying, chapping,

Eye contact: Can cause irritation, redness, tearing, burning.

Ingestion: In large quantities causes irritation, nausea and gastrointestinal upset.

4.3. Indication of any immediate medical attention and special treatment needed:

not appropriate

SECTION 5 - Firefighting measures

5.1. Extinguishing Media:

Suitable extinguishing media: No limitations. Adjust extinguishing media to the surrounding fire.

5.2. Special Hazards arising from the substance or mixture:

The substance is not combustible, not explosive and not flammable.
Magnesium hydroxide has a flame retardant effect.

5.3. Advice for firefighters:

Use extinguishing media most appropriate for the surrounding fire.
Firefighters should wear the usual protective clothing and self-contained breathing apparatus.

SECTION 6 - Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Do not inhale dust. Avoid generation of dust, skin contact and eye contact.

6.2. Environmental precautions: Avoid to enter large quantities in sewerage system.

6.3. Methods and material for containment and cleaning up:

Collect spillage with a shovel and put into a closed container. Clean up affected surface with dry method (or flush with water). Avoid generation of dust.
Dispose in accordance with official regulations.

6.4. Reference to other sections: not appropriate

SECTION 7 - Handling and storage

7.1. Precautions for safe handling:

Avoid any operation leading to the formation of excess of dust.
Observe the exposure limit values in accordance with regulation.
Avoid inhaling dust and fumes when in their presence or ingestion of the product.
Wash after handling thoroughly every surface of the body that has come into contact with the product.
Do not eat, drink or smoke when using the product.
Clean working area frequently to avoid buildup of dust.

7.2. Conditions for safe storage, including any incompatibilities:

Dry storage required. Protect from moisture. Keep containers closed.
Storage temperature: no restrictions.
Avoid contact with incompatibles mentioned under item 10.

7.3. Specific end use(s): No information available

SECTION 8 - Exposure controls / Personal protection

8.1. Control parameters:

Germany (Allgemeiner Staubgrenzwert):

10 mg/m ³	einatembare Staubfraktion, E-Staub (inhalable dust)
3 mg/ m ³	alveolengängige Staubfraktion, A-Staub (respirable dust)

Netherlands (MAC):

	10 mg/ m ³	inhaleerbaar stof (inhalable dust)
	5 mg/ m ³	respirabel stof (respirable dust)
USA:		
ACGIH (TLV-TWA)	10 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
OSHA (PEL-TWA)	15 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
United Kingdom:		
	10 mg/ m ³	inhalable dust
	4 mg/ m ³	respirable dust
Finland, Spain, Italy, Zwitserland:		
	10 mg/ m ³	inhalable dust
	3 mg/ m ³	respirable dust
Australia, Austria, Sweden, France, Denmark:		
	10 mg/ m ³	inhalable dust
	5 mg/ m ³	respirable dust
Other countries:	Please inform at your national authorities.	

8.2. Exposure controls:

Appropriate Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep air-borne levels below recommended exposure limits (see section 8.1).

Individual Protection Measures:

Eye / face protection: Use safety glasses with side protection complying with an approved standard

Hand protection: Impervious protective gloves are recommended complying with an approved standard

Skin protection: It is recommended to wear impervious clothing and shoes to prevent repeated or prolonged skin contact.

Respiratory protection: Wear dust mask (minimum filter type P2) complying with an approved standard

Thermal hazards: not identified

Environmental exposure controls: no information available

SECTION 9 - Physical and chemical parameters

9.1. Information on basic physical and chemical properties:

Physical state:	solid, granule or powder
Colour:	white
Odour:	odourless
Melting point/freezing point:	not applicable, decomposition at 350°C
Boiling point or initial boiling point and boiling range:	not applicable, decomposition at 350°C
Flammability:	not flammable
Lower and upper explosion limit:	not applicable
Flash point:	not applicable
Auto-ignition	not applicable

temperature:	
Decomposition temperature:	ca 350°C
pH:	ca. 10 (10 % suspension in water)
Kinematic viscosity:	not applicable (solid)
Solubility:	
in water (20°C):	almost insoluble
in alcohols:	insoluble
Partition coefficient n-octanol/water (log value):	not applicable
Vapour pressure:	not applicable (not volatile)
Relative density:	Bulk (loose) density 350 - 1000 g/l (depending on the grade and grain-size)
Relative vapour density:	not applicable (not volatile)
Evaporation rate:	not applicable
Explosive limits:	not applicable
Viscosity:	not applicable (solid)
Explosive properties:	not explosive
Oxidizing properties:	not applicable

9.2. Other information:

9.2.1 Information with Regard to Physical Hazard Classes: none

9.2.2 Other Safety Characteristics: none

SECTION 10 - Stability and reactivity

10.1. *Reactivity:* Reacts vigorously with strong acids.

10.2. *Chemical Stability:*

Chemically stable up to the decomposition temperature. Above 350°C decomposition to magnesium oxide and water.

10.3. *Possibility of hazardous Reactions:* see 10.1.

10.4. *Conditions to avoid:* No information available

10.5. *Incompatible materials:* See 10.1.

10.6. *Hazardous decomposition products:*

No hazardous decomposition products: decomposes to magnesium oxide and water.

SECTION 11 - Toxicological information

General information:

Not classified as dangerous goods under Regulation (EU) 1272/2008

11.1. *Information on toxicological effects:*

Acute toxicity:	None
Skin corrosion / irritation:	Not absorbed by intact skin. Intimate contact of the skin with magnesium hydroxide can cause temporary irritation, drying and chapping.
Serious eye damage / irritation:	Can cause temporary eye irritation.

Respiratory or skin sensitation:	Short-term inhalation of magnesium hydroxide dust or fume can cause temporary irritation of upper respiratory tract, nose and skin.
Germ cell mutagenicity:	No known studies. Not considered to be mutagenic in general.
Carcinogenicity:	Substance is not classified as carcinogenic under ACGIH, NIOSH, IARC, NTP or OSHA.
Reproductive toxicity:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

11.2. Information on other hazards

11.2.1 *Endocrine disrupting properties:* no information available

11.2.2 *Other information:* Alkalinity: Being a mild alkali is mainly the cause for irritation of body tissues.

SECTION 12 - Ecological information

12.1. Toxicity:

As natural occurring mineral (brucite) magnesium hydroxide forms little risk to the environment.

12.2. Persistence and degradability:

Magnesium hydroxide is nearly insoluble in water. By reaction with acids and neutralization magnesium hydroxide is slowly degraded.

12.3. Bio accumulative potential:

Due to its ionic nature it is not a candidate for bioaccumulation.

12.4. *Mobility in soil:* Low because of the structure and physicochemical characteristics.

12.5. *Results of PBT and vPvB assessment:* No information available

12.6 *Endocrine disrupting properties:* Not applicable

12.7. *Other adverse effects:* Not identified

SECTION 13 - Disposal considerations

Chemical residues generally are considered as special waste. Therefore we recommend to contact the authorities in charge or approved waste disposal companies how to dispose of the waste. The disposal has to be done in compliance with national and regional regulations.

13.1 *Waste treatment methods:* Disposal must be done according to official regulations. Do not discharge into drains or the environment. Do not dispose of domestic waste.

SECTION 14 - Transport information

14.1. <i>UN number or ID number:</i>	Not listed
14.2. <i>UN proper shipping name:</i>	Not listed
14.3. <i>Transport Hazard Class:</i>	None
14.4. <i>Packing group:</i>	Not applicable

14.5. <i>Environmental hazards:</i>	None
14.6. <i>Special precautions for user:</i>	None
14.7. <i>Maritime transport in bulk according to IMO instruments:</i>	Not applicable

SECTION 15 – Regulatory information

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

Europe:

Contains no REACH substances with Annex XVII restrictions.

Contains no substances on the REACH candidate list.

Contains no REACH Annex XIV substances.

Contains no substances subjected to Regulation (EU) No 649/2012 of the European Parliament of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substances subjected to Regulation (EU) No 2019/1021 of the European Parliament of the Council of 20 June 2019 on persistent organic pollutants.

The substance is exempted from the obligation to register according to Regulation 1907/2006 (REACH) as natural magnesium hydroxide is a mineral occurring in nature. See Regulation 987/2008: annex 5, item 7.

USA:

US Federal Regulations:

No additional information available

US State Regulations:

No additional information available

Turkey:

The substance is exempted from the obligation to register according to Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK) forced on 23.12.2017 by Ministry of Environment and Urban Planning, Turkey as natural magnesium hydroxide is a mineral occurring in nature. See annex V.

15.2. *Chemical safety assessment* Not applicable

SECTION 16 - Other information

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information in this Safety Data Sheet is based on our present knowledge and experience. The Safety Data Sheet characterizes the product with regard to the appropriate safety precautions. The information does not represent a guarantee of the properties of the product.

Party Responsible for the Preparation of This Document

Russian Mining Chemical Company LLC
115093, Russia, Moscow, Pavlovskaya street 7/1
Emergency telephone number: +7 (495) 789-65-30

Material Safety Data Sheet

Russian Mining Chemical Company LLC

According to regulation EU 2020/878

Revision date: 04-10-2021

Version number: 10

Valid from: 04-10-2021



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

1.1. Product identifier:

Trade name: Ecopiren, Ecopiren T, Ecopiren R, Ecopiren A

Product Form: Powder

Synonyms: Brucite, magnesium hydroxide

EINECS No: 215 - 170 - 3

CAS No: 1317 - 43 - 7

Molecular Weight: 58.3

Chemical Formula: Mg(OH)₂

Registration number: not applicable (see section 15)

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

Use:

- flame retardant

Uses advised against

(if any, by the supplier): None

1.3. Details of the supplier of the safety data sheet:

Russian Mining Chemical Company LLC,
115093, Russia, Moscow, Pavlovskaya street 7/1

1.4. Emergency Telephone number:

+7 (495) 789-65-30

SECTION 2 - Hazards Identification

2.1. Classification of the substance or mixture:

Classification in accordance with Regulation (EU) 1272/2008

Not classified

2.2. Label elements:

Labelling (REGULATION (EC) No 1272/2008)

Precautionary statements

Prevention

P260 Do not breathe dust.

2.3. Other hazards:

Formation of dust is possible.

PBT: not relevant - no registration required.

vPvB: not relevant - no registration required.

SECTION 3 - Composition / Information on ingredients

3.1. Substances:

Product does not contain any substances to be mentioned according to criteria of section 3.1 annex II Regulation (EU) 1907/2006

Substance Name	CAS No	EC/List No	% (weight)	REACH registration	Classification according to Regulation (EC) No 1278/2008 (CLP)
Brucite	1317-43-7	215-274-9	100 %	Exempted see regulation 987/2008: annex 5, item 7	Not classified

SECTION 4 - First aid measures

4.1. Description of first aid measures:

Seek medical assistance if feeling unwell.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact: Wash with plenty of water. Wash contaminated clothing.

Eye contact: Rinse out with plenty of water. Do not rub eyes.

Ingestion: Rinse out mouth with plenty of water and spit out the fluid. After swallowing large amounts: induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed:

Inhalation: Dust can cause temporary irritation of upper respiratory tract.

Skin contact: Can cause irritation, drying, chapping,

Eye contact: Can cause irritation, redness, tearing, burning.

Ingestion: In large quantities causes irritation, nausea and gastrointestinal upset.

4.3. Indication of any immediate medical attention and special treatment needed:

not appropriate

SECTION 5 - Firefighting measures

5.1. Extinguishing Media:

Suitable extinguishing media: No limitations. Adjust extinguishing media to the surrounding fire.

5.2. Special Hazards arising from the substance or mixture:

The substance is not combustible, not explosive and not flammable.
Magnesium hydroxide has a flame retardant effect.

5.3. Advice for firefighters:

Use extinguishing media most appropriate for the surrounding fire.
Firefighters should wear the usual protective clothing and self-contained breathing apparatus.

SECTION 6 - Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Do not inhale dust. Avoid generation of dust, skin contact and eye contact.

6.2. Environmental precautions: Avoid to enter large quantities in sewerage system.

6.3. Methods and material for containment and cleaning up:

Collect spillage with a shovel and put into a closed container. Clean up affected surface with dry method (or flush with water). Avoid generation of dust.
Dispose in accordance with official regulations.

6.4. Reference to other sections: not appropriate

SECTION 7 - Handling and storage

7.1. Precautions for safe handling:

Avoid any operation leading to the formation of excess of dust.
Observe the exposure limit values in accordance with regulation.
Avoid inhaling dust and fumes when in their presence or ingestion of the product.
Wash after handling thoroughly every surface of the body that has come into contact with the product.
Do not eat, drink or smoke when using the product.
Clean working area frequently to avoid buildup of dust.

7.2. Conditions for safe storage, including any incompatibilities:

Dry storage required. Protect from moisture. Keep containers closed.
Storage temperature: no restrictions.
Avoid contact with incompatibles mentioned under item 10.

7.3. Specific end use(s): No information available

SECTION 8 - Exposure controls / Personal protection

8.1. Control parameters:

Germany (Allgemeiner Staubgrenzwert):

10 mg/m³ einatembare Staubfraktion, E-Staub (inhalable dust)

	3 mg/ m ³	alveolengängige Staubfraktion, A-Staub (respirable dust)
Netherlands (MAC):		
	10 mg/ m ³	inhaleerbaar stof (inhalable dust)
	5 mg/ m ³	respirabel stof (respirable dust)
USA:		
ACGIH (TLV-TWA)	10 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
OSHA (PEL-TWA)	15 mg/ m ³	total dust
	5 mg/ m ³	respirable dust
United Kingdom:		
	10 mg/ m ³	inhalable dust
	4 mg/ m ³	respirable dust
Finland, Spain, Italy, Zwitserland:		
	10 mg/ m ³	inhalable dust
	3 mg/ m ³	respirable dust
Australia, Austria, Sweden, France, Denmark:		
	10 mg/ m ³	inhalable dust
	5 mg/ m ³	respirable dust
Other countries:	Please inform at your national authorities.	

8.2. Exposure controls:

Appropriate Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep air-borne levels below recommended exposure limits (see section 8.1).

Individual Protection Measures:

Eye / face protection: Use safety glasses with side protection complying with an approved standard

Hand protection: Impervious protective gloves are recommended complying with an approved standard

Skin protection: It is recommended to wear impervious clothing and shoes to prevent repeated or prolonged skin contact.

Respiratory protection: Wear dust mask (minimum filter type P2) complying with an approved standard

Thermal hazards: not identified

Environmental exposure controls: no information available

SECTION 9 - Physical and chemical parameters

9.1. Information on basic physical and chemical properties:

Physical state:	solid, granule or powder
Colour:	white
Odour:	odourless
Melting point/freezing point:	not applicable, decomposition at 350°C
Boiling point or initial boiling point and boiling range:	not applicable, decomposition at 350°C
Flammability:	not flammable

Lower and upper explosion limit:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable
Decomposition temperature:	ca 350°C
pH:	ca. 10 (10 % suspension in water)
Kinematic viscosity:	not applicable (solid)
Solubility:	
in water (20°C):	almost insoluble
in alcohols:	insoluble
Partition coefficient n-octanol/water (log value):	not applicable
Vapour pressure:	not applicable (not volatile)
Relative density:	Bulk (loose) density 350 - 1000 g/l (depending on the grade and grain-size)
Relative vapour density:	not applicable (not volatile)
Evaporation rate:	not applicable
Explosive limits:	not applicable
Viscosity:	not applicable (solid)
Explosive properties:	not explosive
Oxidizing properties:	not applicable

9.2. Other information:

9.2.1 Information with Regard to Physical Hazard Classes: none

9.2.2 Other Safety Characteristics: none

SECTION 10 - Stability and reactivity

10.1. *Reactivity:* Reacts vigorously with strong acids.

10.2. *Chemical Stability:*

Chemically stable up to the decomposition temperature. Above 350°C decomposition to magnesium oxide and water.

10.3. *Possibility of hazardous Reactions:* see 10.1.

10.4. *Conditions to avoid:* No information available

10.5. *Incompatible materials:* See 10.1.

10.6. *Hazardous decomposition products:*

No hazardous decomposition products: decomposes to magnesium oxide and water.

SECTION 11 - Toxicological information

General information:

Not classified as dangerous goods under Regulation (EU) 1272/2008

11.1. *Information on toxicological effects:*

Acute toxicity: None

Skin corrosion / irritation:	Not absorbed by intact skin. Intimate contact of the skin with magnesium hydroxide can cause temporary irritation, drying and chapping.
Serious eye damage / irritation:	Can cause temporary eye irritation.
Respiratory or skin sensitisation:	Short-term inhalation of magnesium hydroxide dust or fume can cause temporary irritation of upper respiratory tract, nose and skin.
Germ cell mutagenicity:	No known studies. Not considered to be mutagenic in general.
Carcinogenicity:	Substance is not classified as carcinogenic under ACGIH, NIOSH, IARC, NTP or OSHA.
Reproductive toxicity:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

11.2. Information on other hazards

11.2.1 *Endocrine disrupting properties:* no information available

11.2.2 *Other information:* Alkalinity: Being a mild alkali is mainly the cause for irritation of body tissues.

SECTION 12 - Ecological information

12.1. Toxicity:

As natural occurring mineral (brucite) magnesium hydroxide forms little risk to the environment.

12.2. Persistence and degradability:

Magnesium hydroxide is nearly insoluble in water. By reaction with acids and neutralization magnesium hydroxide is slowly degraded.

12.3. Bio accumulative potential:

Due to its ionic nature it is not a candidate for bioaccumulation.

12.4. Mobility in soil: Low because of the structure and physicochemical characteristics.

12.5. *Results of PBT and vPvB assessment:* No information available

12.6 *Endocrine disrupting properties:* Not applicable

12.7. *Other adverse effects:* Not identified

SECTION 13 - Disposal considerations

Chemical residues generally are considered as special waste. Therefore we recommend to contact the authorities in charge or approved waste disposal companies how to dispose of the waste. The disposal has to be done in compliance with national and regional regulations.

13.1 *Waste treatment methods:* Disposal must be done according to official regulations. Do not discharge into drains or the environment. Do not dispose of domestic waste.

SECTION 14 - Transport information

14.1. *UN number or ID number:* Not listed

14.2. *UN proper shipping name:* Not listed

14.3. <i>Transport Hazard Class:</i>	None
14.4. <i>Packing group:</i>	Not applicable
14.5. <i>Environmental hazards:</i>	None
14.6. <i>Special precautions for user:</i>	None
14.7. <i>Maritime transport in bulk according to IMO instruments:</i>	Not applicable

SECTION 15 – Regulatory information

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

Europe:

Contains no REACH substances with Annex XVII restrictions.

Contains no substances on the REACH candidate list.

Contains no REACH Annex XIV substances.

Contains no substances subjected to Regulation (EU) No 649/2012 of the European Parliament of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substances subjected to Regulation (EU) No 2019/1021 of the European Parliament of the Council of 20 June 2019 on persistent organic pollutants.

The substance is exempted from the obligation to register according to Regulation 1907/2006 (REACH) as natural magnesium hydroxide is a mineral occurring in nature. See Regulation 987/2008: annex 5, item 7.

USA:

US Federal Regulations:

No additional information available

US State Regulations:

No additional information available

Turkey:

The substance is exempted from the obligation to register according to Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK) forced on 23.12.2017 by Ministry of Environment and Urban Planning, Turkey as natural magnesium hydroxide is a mineral occurring in nature. See annex V.

15.2. *Chemical safety assessment* Not applicable

SECTION 16 - Other information

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information in this Safety Data Sheet is based on our present knowledge and experience. The Safety Data Sheet characterizes the product with regard to the appropriate safety precautions. The information does not represent a guarantee of the properties of the product.

Party Responsible for the Preparation of This Document

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