



SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 453/2010)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : REFPAC 100

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

Deflocculant for refractory castables

1.3. Details of the supplier of the safety data sheet

Registered company name : KERNEOS SA.

Address : 11 cours Valmy - Immeuble Pacific - CS 20058 .92977.Paris La Défence CEDEX.FRANCE.

Telephone : +33 1 46 37 90 00. Fax : +33 1 46 37 92 00.

sds@kerneos.com

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : INRS / ORFILA <http://www.centres-antipoison.net>.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Additional labeling :

EUH210 Safety data sheet available on request.

Precautionary statements - Prevention :

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - Response :

P307 + P311 IF exposed: Call a POISON CENTER or doctor/physician.

Precautionary statements - Disposal :

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) \geq 0.1% published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>

The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Cement Alumina Chemicals CAS : 65997-16-2 EC : 266-045-5 Reach : Exempt

Classification : (EC) 1272/2008 / 67/548/EEC not classified

Content : 50 - 90%

Identification	(EC) 1272/2008	67/548/EEC	Note	%
CAS: 554-13-2 EC: 209-062-5 LITHIUM CARBONATE	GHS07 Wng Acute Tox. 4, H302 Eye Irrit. 2, H319	Xn Xn;R22 Xi;R36		2.5 \leq x % < 10

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CAS: 77-92-9 EC: 201-069-1 CITRIC ACID	GHS07 Wng Eye Irrit. 2, H319	Xi Xi;R36		2.5 <= x % < 10
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SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures**In the event of exposure by inhalation :**

In case of exposure to high concentrations of dust : move the affected person away from the contaminated area and into the fresh air

In the event of splashes or contact with eyes :

Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

In the event of splashes or contact with skin :

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

Wash with soap

In the event of swallowing :

Seek medical attention, showing the label.

Never attempt to induce vomiting

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

Slightly irritant for eye

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

Treat symptomatically

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media**Suitable methods of extinction**

In the event of a fire, use :

- carbon dioxide (CO₂)
- powder
- foam

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Retrieve the product by mechanical means (sweeping/vacuuming) : do not generate dust.

6.4. Reference to other sections

Sections 7, 8 & 13

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Fire prevention :

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid inhaling dust.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

Keep the container tightly closed in a cool, well ventilated place

Keep the container away from dampness

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

Particules not otherwise specified/classified

UK / WEL (Workplace exposure limits, EH40/2005, 2007) : Total Dust TWA=10mg/m³ Respirable dust TWA=4mg/m³

USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits) : Respirable fraction TWA=5mg/m³ Total fraction TWA=15mg/m³

ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) : Respirable particules TWA =3 mg/m³
Inhalable particles TWA=10mg/m³

China / WEL (Workplace exposure limits, GBZ 2.4-2007) : Total Dust TWA=4mg/m³ Respirable dust TWA=1.5mg/m³

Predicted no effect concentration (PNEC):

CITRIC ACID (CAS: 77-92-9)

Environmental compartment:

PNEC :

Soil.

33.1 mg/kg

Environmental compartment:

PNEC :

Fresh water.

0.44 mg/l

Environmental compartment:

PNEC :

Sea water.

0.044 mg/l

Environmental compartment:

PNEC :

Fresh water sediment.

34.6 mg/kg

Environmental compartment:

PNEC :

Marine sediment.

3.46 mg/kg

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

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- Eye / face protection

Avoid contact with eyes.

Before handling powders or dust emission, wear mask goggles in accordance with standard EN166.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Suitable type of protective clothing :

Wear protective clothing against solid chemicals and particles suspended in the air (type 5) in accordance with standard EN13982-1 to prevent skin contact.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Avoid breathing dust.

Type of FFP mask :

Wear a disposable half-mask dust filter in accordance with standard EN149.

Category :

- FFP3

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties****General information :**

Physical state :	Powder or dust.
Apparent bulk density (Loose packed) :	800 - 1200 kg/m ³
Color:	White
Odour:	Odourless

Important health, safety and environmental information

pH (aqueous solution) :	8 - 10 (10%)
pH :	Not relevant.
Boiling point/boiling range :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	2.3 - 2.8 g/cm ³
Water solubility :	Partially soluble.
Melting point/melting range :	Not relevant.
Self-ignition temperature :	Not relevant.
Decomposition point/decomposition range :	Not relevant.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY**10.1. Reactivity**

In the presence of water, calcium aluminates react chemically and harden to form stable hydrates

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

None under normal conditions.

10.4. Conditions to avoid

Avoid :

- formation of dusts
- accumulation of electrostatic charges.
- humidity

10.5. Incompatible materials

Keep away from :

- strong acids
- alkalis
- strong oxidising agents

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10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

SECTION 11 : TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

No data available.

11.1.1. Substances**Acute toxicity :**

LITHIUM CARBONATE (CAS: 554-13-2)

Oral route :

LD50 = 525
Species : Rat

11.1.2. Mixture**Skin corrosion/skin irritation :**

Slightly irritating to skin

Serious damage to eyes/eye irritation :

Dust may cause slight irritation to the ocular mucous membranes due to the presence of a foreign body.

Lightly irritant for eyes

Specific target organ systemic toxicity - single exposure :

Dust from this product may cause irritation to the respiratory tract

SECTION 12 : ECOLOGICAL INFORMATION**12.1. Toxicity****12.1.1. Substances**

LITHIUM CARBONATE (CAS: 554-13-2)

Fish toxicity :

LC50 30.3 mg/l
Duration of exposure : 96 h

Crustacean toxicity :

EC50 = 33.2 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability**12.2.1. Substances**

LITHIUM CARBONATE (CAS: 554-13-2)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The mixture does not satisfy the PBT or vPvB criteria in accordance with annexe XIII of the REACH regulations EC 1907/2006.

12.6. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

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Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Exempt from transport classification and labelling.

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2013 - IMDG 2012 - ICAO/IATA 2014).

SECTION 15 : REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****- Classification and labelling information included in section 2:**

The following regulations have been used:

- Directive 67/548/EEC and its adaptations
- Directive 1999/45/EC and its adaptations
- EU Regulation No. 1272/2008 amended by EU Regulation No. 487/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 944/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 605/2014.

- Container information:

No data available.

- Particular provisions :

US Toxic Substances Control Act TSCA : All substances are listed in the EPA (Environment Protection Agency) TSCA inventory

USA : CERCLA Hazardous substance (40CFR Part 302) : all substances are not listed in the CERCLA list

USA State of California : This product may contain as impurities one or more chemicals known to the state of California to cause cancer, birth defects or other reproductive harm, listed in Proposition 65 inventory.

USA SARA section 311/312 categorizations : None

Canada : Domestic or Non-Domestic Substance List (DSL or NDSL) : all substances are registered in the DSL or NDSL inventory

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=0 Inflammability=1 Instability/Reactivity=1 Specific Risk=none

**15.2. Chemical safety assessment**

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

Risk phrase :

Safety data sheet available for professional user on request.

Safety phrase :

S 41

In case of fire and/or explosion do not breathe fumes.

Title for H, EUH and R indications mentioned in section 3 :

H302

Harmful if swallowed.

H319

Causes serious eye irritation.

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R 22 Harmful if swallowed.
R 36 Irritating to eyes.

Abbreviations :

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).