

**1. Identification of the substance/mixture and of the company/business****1.1 Identification of the product**

This product is a mixture

**Trade name :** Adhesive Paste

**1.2 Use**

User : Industrial

Recommended use : Paste used to make a seal between the mould and the rail when welding, only with PANDROL products. All other uses are not covered by the supplier.

**1.3 Information regarding the supplier of the safety data sheet**

Manufacturer :

**PANDROL**

PANDROL  
ZI du Bas Pré  
59590 RAISMES  
France  
Tel : 03 27 22 26 26  
Fax : 03 27 22 26 00

**1.4 Emergency telephone number**

Emergency telephone: +33 (0)1 45 42 59 59 (ORFILA-INRS) (24 hours per day, 7 days a week.)

Contact details: [securite.raismes@pandrol.com](mailto:securite.raismes@pandrol.com)

**2. Identification of dangers****2.1 Classification of the mixture**

Classification according to CLP (CE) n°1272/2008

**Physical Danger**

Unclassified mixture

**Danger related to the environment**

Unclassified mixture

**2.2 Labeling elements**

Pictogram:

Signal word : **Warning**

Hazard statements :

**H319** : Causes serious eye irritation

Safety advice :

**P264** : Wash your hand thoroughly after handling.**P280** : Wear suitable protective clothing, gloves and eye/face protection.**P337+P313** : If eye irritation persists: Get medical advice/attention.**2.3 Other hazards**

This mixture contains no PBT and/or vPvB substances in accordance with criteria in REACH XIII appendix.

### 3. Composition/informations about ingredients

#### 3.2. Mixture

The product classification takes into account the highest concentration of each substance.

Designation of the substance	REACH registration number	Classification selon les critères du règlement CLP	Concentration (m/m)
Silica Sand <sup>1</sup> Quartz (SiO <sub>2</sub> ) N° CAS : 14808-60-7 N°CE : 238-878-4 N°INDEX : NA	Exempted substance according to Appendix V of the REACH Regulation	Unclassified substance Contains less than 1% alveolar quartz.	30 < X(%) < 60
Calcium chloride N° CAS : 10043-52-4 N°CE : 233-140-8 N°INDEX : 017-013-00-2	01-2119494219-28-XXXX	Eye irritation, category 2 (Eye Dam. 2) - H319	20 < X(%) < 40
Kaolin <sup>1</sup> N° CAS : 1332-58-7 N°CE : 310-194-1 N°INDEX : NA	Exempted substance according to Appendix V of the REACH Regulation	Unclassified substance	5 < X(%) < 15
Red iron oxide <sup>1</sup> N° CAS : 1309-37-1 N°CE : 215-168-2 N°INDEX : NA	05-2115161532-54-0000	Unclassified substance	0,1 < X(%) < 1
Other substances not classified or not to appear in this section			36 < X(%) < 59

1 : Substance with an occupational exposure limit value (see section 8)

### 4. First aid

#### 4.1 Description of first aid measures

IN CASE OF SERIOUS OR PERSISTENT DISORDERS, CALL A DOCTOR OR ASK FOR EMERGENCY MEDICAL ASSISTANCE. Always think of protecting yourself before your intervention (wear PPE if necessary) and secure the area before intervention.

**If on skin:**

In case of contact, wash quickly with soap and water (10 to 15°C, for at least 5 minutes). Call a doctor if skin irritation, swelling or redness occurs and persists.

**If on eyes :**

Clean eyes with plenty of water (or physiological serum) for at least 10 minutes

**If swallowed :**

The product cannot be swallowed

**If inhaled:**

The product cannot be inhaled

**4.2. Main symptoms and effects, acute and delayed****In case of contact with skin and eyes:**

Slight irritations on the damaged skin, the eyes and the mucous membranes.  
The longer the contact period, the more intense the discomfort will be.  
Dust and fumes will also irritate the eyes.

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

No specific treatments known.

## 5. Fire safety measures

**5.1 Extinguishing media**

During Use (aluminothermic welding) :

**SAND BOX**

- Use only **dry sand** to extinguish.
- **Unsuitable extinguishing media:** Do **not use water** to extinguish

**5.2. Special hazards arising from the mixture**

The substances present in the fumes will strongly depend on the combustion conditions (incomplete combustion, thermolysis, etc.) The combustion will generally release a complex mixture of gases and vapors and suspended particles in the air. These fumes and vapors pose a risk to health due to toxic substances and corrosive to the respiratory tract.

### **5.3 Advice to firemen**

Wear self-contained breathing appliance with full face mask and appropriate protective clothing.

## **6. Measures to be taken in the event of accidental dispersion**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid release into the environment

Prevent entry into sewers, ground and drinking water (contact with water, risk of hydrogen release).

### **6.2 Precautions for the environment**

Prevent spillage into sewers, surface water – do not insert into the soil.

The waste have to be treated according to the section 13.

### **6.3. Methods and material for containment and cleaning up**

Collect spilled material with a shovel and brush, avoiding dust. Store the product in the original tubes and cardboard in a dry place.

### **6.4. References to other section**

See section 8 for PPE

See section 4 for first aid

See section 5 for Fire safety measures

See section 13 for the management of contaminated absorbent

## **7. Handling and storage**

### **7.1 Precautions for safe handling**

#### **General advice on occupational hygiene:**

- Do not drink, eat or smoke in the workplace and do not store food, beverages, drugs or tobacco in areas where a chemical risk has been identified.
- Store work clothes separately from personal clothes.
- Do not wear contaminated work clothes in places such as offices, seminar rooms, lounge areas, corporate restaurants or cafeterias.
- Do not leave the plant with work clothes or personal protective equipment.
- Change work clothes frequently and whenever they have been contaminated with dangerous

chemicals (note that leather or other porous materials are not cleanable: once contaminated, they should be disposed of as chemical waste)

- Wash your hands before each break.

**Measures specific to dust formation:**

**Avoid damaging the packaging.**

#### 7.2 Conditions for safe storage, including incompatibilities

- Keep the tube closed and identified
- The product must be used only in its original container
- Store in a cool, well-ventilated area
- Control the effects of external conditions (temperature, pressure, radiation, humidity, ...)

**Recommended storage temperature:** ambient (<40 ° C)

**Packaging type:** Aluminium with surface coating

#### 7.3 Specific end use

The refractory paste is used to seal between the briquette and the rail to prevent metal leakage when filling the mould.

## 8. Exposure controls/ personal protection

### 8.1 Control parameters

The Labour Code defines the occupational exposure limit value (OELV) of a chemical agent (Article R. 4412-4) and the list of binding regulatory OELVs (Article R. 4412-149) refers to orders for indicative regulatory OELVs (Article R. 4412-150 and amended Order of 30 June 2004). The measures to be taken in the event of an exceedance of a VLEP are defined in Articles R. 4412-28 and R. 4412-29 for chemical agents not classified as CMR and Articles R. 4412-77 and R. 4412-78 for chemical agents CMR.

Substances present in the mixture with French VLEPs

(Information from INRS brochure ED 984 "Occupational exposure limit values")

Parameters	OELV type	AEV (ppm)	AEV (mg/m <sup>3</sup> )	ELV (ppm)	ELV (mg.m <sup>3</sup> )	TMP n°	Toxicological sheet
Silica Sand Quartz (SiO <sub>2</sub> ) N° CAS : 14808-60-7	Binding regulation	-	0,1 (alveolar)	-	-	25	232
Dust without specific effects	Binding regulation	-	10 5 (alveolar)	-	-	-	-
Kaolin N° CAS : 1332-58-7	Indicative	-	10	-	-	25	-
Red iron oxide N° CAS : 1332-58-7	Indicative	-	5	-	-	44,44bis, 94	-

In the presence of alveolar dust containing crystalline silica and other non-silicogenic dust, the exposure limit is set by the following formula:

$$Cns/Vns + Cq/0.1 + Cc/0.05 + Ct/0.05$$

where Cns represents the concentration in non-silicogenic alveolar dust mg.m<sup>-3</sup>, Vns, the recommended average exposure value for alveolar dust without any specific effect (5mg.m<sup>-3</sup>), and Cq, Cc and Ct are the respective concentrations of quartz, cristobalite and tridymite in mg.m<sup>-3</sup>.

**DNEL** (Data from the registration dossier for Calcium Chloride)

General population, long-term, repeated dose, by inhalation, DNEL = 2.5 mg/m<sup>3</sup>

### 8.2 Exposure controls

The choice of personal protective equipment (PPE) depends on the conditions of use (type of process, handling practices, concentration, ventilation,...) influencing the exposure of workers. The information below is based on the intended normal use of this product.

PPE complement collective protection measures and can't predominate over them. Use clean and properly maintained PPE. Before each use, you must check the state of the protections. Store PPE in a clean area away from the work area.

#### Hand protection :

It is recommended to wear gloves to put the paste



#### Protection of the skin and body :

It is recommended to wear protective clothing (100% cotton) and safety shoes.



## 9. Physical and chemical properties

Unless otherwise indicated, the tests were conducted at 20 ° C and at normal atmospheric pressure (101.325 kPa)

### 9.1 Information on essential physical and chemical properties

<b>Physical state:</b>	Solid
<b>Colour :</b>	pink
<b>Odour:</b>	none
<b>Odour threshold:</b>	Not determined for the mixture
<b>pH:</b>	Not determined for the mixture
<b>Freezing point:</b>	The mixture cured at + 100 ° C Calcium chloride : 775 - 782 ° C at 101.3 kPa
<b>Initial boiling point and boiling range:</b>	Not determined for the mixture

<b>Flammable solids / gas:</b>	Calcium chloride : 1 935 °C at 101.3 kPa Not easily flammable (regulatory tests C.E.E-A.10)
<b>Upper / lower flammability or explosion limit:</b>	Not determined for the mixture
<b>Density of fumes:</b>	Not applicable in view of physical state
<b>Flash point:</b>	Not applicable in view of physical state
<b>Evaporation rate:</b>	Non applicable in view of physical state
<b>Vapour pressure:</b>	Not determined for the mixture
<b>Relative density:</b>	Not determined for the mixture
<b>Water solubility :</b>	Calcium chloride: 2.15 g/cm <sup>3</sup> Soluble.
<b>Fat solubility:</b>	Calcium chloride : 745 - 1 590 g/L at 20 - 100 °C and pH 7 Not determined for the mixture
<b>Partition coefficient (n-octyl alcohol / water</b>	Not determined for the mixture
<b>Auto-ignition temperature:</b>	Not determined for the mixture
<b>Decomposition temperature:</b>	Not determined for the mixture
<b>Viscosity:</b>	Not applicable in view of physical state
<b>Explosive properties:</b>	This mixture is not classified on the basis of its constituents
<b>Oxidising properties:</b>	This mixture is not classified on the basis of its constituents

## **9.2. Other information**

No further information

## **10. Stability and reactivity**

### **10.1 Reactivity**

No known reactivity

### **10.2 Chemical stability**

Stable under normal conditions

### **10.3 Possibility of hazardous reactions**

No known possibility of hazardous reactions

### **10.4 Conditions to be avoided**

No specific conditions

### **10.5 Materials to be avoided**

Reaction with water, the oxidizing agents release hydrogen (H<sub>2</sub>).



**10.6 Dangerous decomposition product**

Degradation of calcium chloride.

**11. Toxicology information****11.1 Toxicology information**

Since the mixture has not been tested for health effects, the information listed below relates to silica or Calcium chloride.

**a) Acute toxicity**

DL50 - Oral - Species: Rat  
Calcium chloride: > 2000 mg/kg bw

LC50 - inhalation – Species: Rat  
Calcium chloride: (4 h)> 160 mg/L air

DL50 – Dermal exposure – Species: Rat  
Calcium chloride: (4 h)> 5000 mg/kg bw

Interpretation of Results: The mixture and substances are not classified according to CLP regulation

**b) Skin corrosion / skin irritation**

Calcium chloride : 24-hour study on rabbits according to OECD Guideline 404.  
No observed effects

Interpretation of Results: The mixture and substances are not classified according to CLP regulation

**c) Serious eye injury/ eye irritation**

Calcium chloride Study conducted over 192 hours on rabbits according to OECD Guideline 405. Cornea and conjunctiva were moderately to severely irritated in all rabbits from 1 hour to 14 days after treatment. Subsequently, a rabbit's eye recovered, but there was still a slight disorder on the cornea 21 days after treatment. Cornea and conjunctiva were still moderately irritated in the other two rabbits.

Interpretation of results: The mixture is classified as an eye irritant because it contains more than 10% calcium chloride.

**d) Skin sensitisation**

Calcium chloride Test carried out on guinea pigs (published in 1990 ).

The substance is not sensitizing.

Interpretation of Results: The mixture and substances are not classified according to CLP regulation

**e) Respiratory sensitisation**

The mixture and substances are not classified according to CLP regulation

**f) Germ cell mutagenicity**

The mixture and substances are not classified according to CLP regulation

**g) Carcinogenicity**

The mixture and substances are not classified according to CLP regulation

**h) Reproductive toxicity**

Calcium chloride: OECD Guideline 414 (rat)  
NOAEL > 176 mg/kg bw/day

Interpretation of Results: The mixture and substances are not classified according to CLP regulation

**i) Specific target organ toxicity- single exposure (STOT SE)**

The mixture and substances are not classified according to CLP regulation

**j) Specific target organ toxicity- repeated exposure (STOT RE)**

The mixture and substances are not classified according to CLP regulation

**k) Aspiration hazard**

As the mixture is in solid form, this hazard class is not relevant.  
The mixture is not classified as hazardous by aspiration.

**11.2. Interactive effects**

No data on the interactive effects of the different substances in the mixture.

**11.3. Other information**

**12. Environmental information**

Use the product rationally and avoid releasing into the environment.

**12.1 Toxicity**

Since the mixture has not been tested for environmental effects, the information listed below relates to Calcium chloride

**Trifer tetraoxide**

Type of effet	Target	Value
short-term toxicity	Fishes	LC50 (4 days) 4.63 g/L LC50 (48 h) 6.56 g/L LC50 (24 h) 6.66 g/L
	Aquatic invertebrates	LC50 (48 h) 2.4 - 2.77 g/L NOEC (48 h) 2 g/L
Long-term toxicity	Aquatic invertebrates	EC50 (21 days) 610 mg/L [1] LC50 (21 days) 330 - 920 mg/L

**12.2 Persistence and degradability:**

Silica sand: Inorganic substance, irrelevant

Calcium chloride: Inorganic substance, irrelevant

**12.3 Bioaccumulation potential**

No data

**12.4 Mobility in the soil**

No data

**12.5 Evaluation results of PBT and vPvB**

This mixture contains no PBT and/or vPvB substances in accordance with criteria in REACH XIII appendix.

**12.6 Other adverse effects**

This mixture does not contain substances that are harmful to the ozone layer or substances with potential for photochemical ozone formation.

**13. Considerations regarding disposal****13.1 Waste disposal**

Comply with the treatment method taking into account the "Waste Hierarchy" (Waste Framework Directive)

1. Prevention (reducing consumption, extending life, reducing the harmful effects of waste or the content of harmful substances)
2. Preparation for reuse (control, cleaning or repair for waste recovery for reuse without pre-treatment)
3. Recycling (reprocessing of waste into products, materials or substances for their original function or other purposes)
4. Other recovery, including energy recovery (ensuring that the waste replaces materials that would have been used, or fuels for energy recovery - list on Appendix II)
5. Disposal (any operation that is not recovery) list on Appendix I

Dispose of in accordance with local/national safety regulations.

**Treatment of soiled packaging**

After sorting, recycle in appropriate section.

Mixed packaging (card, plastic) must be disposed of and recycled separately, in compliance with decree n° 93-609 of 13 July 1994 and decree n° 92-377 of 1<sup>st</sup> April 1992 and 2002-540 of 18 April 2002 or with the national regulations in which the products are used.

European waste code :

Waste coding	Label	Section
10.03.99	Used tube	Specialised
15.01.01	Cardboard	Recycling / Recovery
12.01.01	Aluminium	Recycling / Recovery

**14. Information regarding transport****ADR/RID/IMDG/IATA**

Not Applicable

The tubes of adhesive paste are not classified as hazardous products and are therefore not subject to special transportation regulations.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific to the substance or mixture****REACH**

At the date of writing of the SDS, concerning the substances present in section 3:

- The mixture does not contain substances identified as SVHC of very high concern (on the candidate list for authorization <https://echa.europa.eu/fr/candidate-list-table>)
- The mixture does not contain substances subject to authorisation (Appendix XIV).
- The mixture does not contain any substances subject to restrictions (Appendix XVII).

**Occupational diseases associated with the substances in the mixture**

crystalline silica: General regime table 25 (The mixture contains less than 1% silica in free form) + 44,44bis, 94

**Directive 2012/18/EU of 4 July 2012 known as the Seveso 3 Directive and its transposition into French law (ICPE for the French law):** No named substances or headings related to the classification of the mixture

**Other Occupational exposure limit values**

Each country has its own limit values for professional exposure; a non-exhaustive summary of ELVs and AEVs applicable outside French territory is offered. For countries not included, seek advice from the occupational health services or the Ministry of Labour of the countries concerned.

**15.2. Chemical safety assessment**

No chemical safety assessment has been performed for the mixture.

**16. Other information****Recommended use and restrictions**

See the instructions when using the product.

**List of abbreviations used in this sheet**

REACH: Registration, Evaluation and Authorisation of Chemicals

(M)SDS: Material Safety Data Sheets

ECHA: European chemicals agency

CMR : Carcinogenic, Mutagenic or toxic to Reproduction

PBT: Persistent, Bioaccumulative, Toxic

vPvB: veryPersistent, veryBioaccumulative

CSR: chemical safety report

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstract Service

CLP: Classification, Labelling and Packaging

EC50: Effective concentration for 50% individuals exposed

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

LC50: lethal concentration, 50% of the population screened.

LD50: lethal dose 50% of the population screened

LTE: Long-term exposure.

N.A.: Not available

OEL: Occupational exposure limit

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STE: Short term exposure.

DNEL : Derived no effect level, Limit dose below which the risks to human health are acceptable

PNEC : Predicted No Effect Concentration, it is the highest concentration of the substance without risk to the environment

**General information:**

This document has been prepared by a competent person who has been properly trained in the writing of this SDS.

The information contained here is based on our knowledge as of the date indicated above. They refer only to the indicated product. The user must ensure that this information is in accordance with the specific use. Risk management and worker protection measures must be adapted according to operational conditions and exposure level. This information does not necessarily apply to this product if it is combined with one or more other products, or if other uses are made of it than those described here.

**Adhesive Paste**

In accordance with REACH Regulation (EC) No  
1907/2006

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03

**Follow-up of SDS updates**

Version 1 August 2002

Version 2 May 2004

Version 3 May 2011

Version 4 January 2015

Version 5 **April 2019**

**Main bibliographic sources**

Registering chemical substances (disseminated information made public on the ECHA website) / Candidate list of substances for authorization / List of substances subject to authorization / List of restricted substances / Guidance document of ECHA for the development of the SDS / ECHA Guidance Document on Labeling and Packaging (CLP)

Websites: <http://www.travailler-mieux.gouv.fr> <http://limitvalue.ifa.dguv.de/> <http://www.inrs.fr/>  
<https://www.anses.fr> <http://www.cchst.ca> <http://www.csst.qc.ca> <http://www.ineris.fr>  
<http://www.installationsclassees.developpement-durable.gouv.fr>

INRS Brochures: 6032, 911, 944,984, 945, 990, 6054, 6032, 20657, 112,127, 769

**End of the safety data sheet**