

Safety Data Sheet

1. Identification of the substance / preparation and the Company

1.1 Identification of the substance or preparation

Code: C302161_C302145_C302171
Product name: ORTHOPRINT

1.2 Use of the substance / preparation

Intended use: Alginate for dental impression material

1.3 Company identification

Name: Zhermack S.p.a
Full address: Via Bovazecchino
District and Country: 45021 Badia Polesine (RO)
Italy
Tel. +39 0425-597611
Fax +39 0425-53596
e-mail address of the competent person responsible for the Safety Data Sheet: tania.demetri@zhermack.com

1.4 Emergency telephone

For urgent inquiries refer to: +39 0425-597611

2. Hazards Identification

2.1 Substance/Preparation Classification

This product is not dangerous under 67/548/EEC and 1999/45/EC directives and subsequent amendments. Nevertheless, this preparation contains dangerous substances in concentrations that must be declared in section No. 3 and requires a safety data sheet containing all the information required under the Regulation (EC) 1907/2006 and subsequent amendments.

3. Composition / Information on ingredients

Contains:

Name	Concentration % (C)	Classification
ZINC OXIDE CAS No 1314-13-2 CE No 215-222-5 Index No 030-013-00-7	1,5 <= C < 2	N R50/53
CRISTOBALITE CAS No 14464-46-1	21 <= C < 22,5	Xn R48/20
DIATOMACEOUS EARTH FLUX CALCINED (KIESELGUR) CAS No 68855-54-9 CE No 272-489-0	32,5 <= C < 35	Xn R48/20
POTASSIO FLUOTITANATO CAS No 16919-27-0 CE No 240-969-9	1,5 <= C < 2	T R23

The complete text of -R- phrases is specified in section 16.

4. First aid measures

EYES: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

SKIN: Wash immediately with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention. Wash contaminated clothing before using them again.

INHALATION: Remove to open air. If breathing is irregular, seek medical advice.

INGESTION: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SUITABLE EXTINGUISHING MEDIA

The extinction equipment should be of the conventional kind: carbon dioxide, foam, powder and nebulised water.

EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS

None in particular.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with straps around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of foam.

6. Accidental release measures

PERSONAL PRECAUTIONS

If there are no contraindications, spray powder with water to prevent the formation of dust. Use breathing equipment if powders are released into the air.

ENVIRONMENTAL PRECAUTIONS

The product must not penetrate the sewer system, surface water, ground water and neighbouring areas.

METHODS FOR CLEANING UP

Use mechanical tools to collect leaked product and eliminate the remainder using jets of water. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

7. Handling and storage

Make sure that equipment is available for cooling the vessels, to prevent the danger of overpressure and overheating in the event of fire in the vicinity. Refer to the other sections of this data sheet for information relating to health and environmental risks.

8. Exposure control / personal protection.

8.1 Exposure limit values

Name	Type	Country	TWA/8h		STEL/15min	
			mg/m ³	ppm	mg/m ³	ppm
ZINC OXIDE	TLV-ACGIH		2		10	
	OEL	IRL	5		10	

8.2 Exposure controls

As the use of adequate technical equipment must always take priority over personal protection equipment, make sure that the workplace is well aired through effective local aspiration or bad air vent. If such operations do not make it possible to

keep the concentration of the product below the permitted workplace exposure thresholds a suitable respiratory tract protection must be used. See product label for hazard details during use. Ask your chemical substance suppliers for advice when choosing personal protection equipment. Personal protection equipment must comply with the rules in force indicated below.

HAND PROTECTION

Protect hands with category I (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in latex, PVC or equivalent. The following should be considered when choosing work glove material: degradation, breakage times and permeation. Work glove resistance to preparations should be checked before use, as it can be unpredictable. Gloves' limit depends on the duration of exposure.

EYE PROTECTION

Use of protective airtight goggles (ref. standard EN 166) recommended.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (ref. Directive 89/686/CEE and standard EN 344). Wash body with soap and water after removing overalls.

RESPIRATORY PROTECTION

If the threshold value for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear an FFP3 (ref. standard EN 141) type half mask.

The use of breathing protection equipment, such as masks with organic vapour and dust/mist cartridges, is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited.

If the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in the event of an emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear self-contained, open-circuit compressed air breathing apparatus (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).

In the event of prolonged worker exposure, verify the possibility of operating in a closed circuit or of reorganising the work cycle to avoid repetitive exposure; make sure the PPE used is as efficient as possible.

9. Physical and chemical properties

Colour	yellow
Odour	
Appearance	powder
Solubility	partially soluble in water
Viscosity	Not available
Vapour density	Not available
Evaporation Rate	Not available
Reactive Properties	Not available
Partition coefficient: n-octanol/water	Not available
pH	Not available
Boiling point	Not available
Flash point	Not available
Explosive properties	Not available
Vapour pressure	Not available
Specific gravity	Not available
Solid content:	84,06 %
VOC (Directive 1999/13/EC) :	0
VOC (volatile carbon) :	0

10. Stability and reactivity

The product is stable in normal conditions of use and storage. In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

11. Toxicological information

Exposure proof – Proof report 2000527-001 dated 26/04/2010:

- ACGIH limit for powders inhalable fraction TLW: 10 mg/Nm³ → experimental proof result: 0,468 mg/Nm³
- ACGIH limit for powders breathable fraction TLW: 3 mg/Nm³ → experimental proof result: 0,939 mg/Nm³

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

13. Disposal consideration

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

This substance is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

15. Regulatory information

Warning symbols: None

Hazard sentences (R): None

Caution recommendations (S): None

Safety data sheet available upon request for professional users.

Danger labelling under directives 67/548/EEC and 1999/45/EC and following amendments and adjustments.

Contains:

CRISTOBALITE

DIATOMACEOUS EARTH FLUX CALCINED (KIESELGUR)

16. Other information

Text of -R- phrases quoted in section 3 of the sheet.

R23	TOXIC BY INHALATION.
R48/20	HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.
R50/53	VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments;
2. Directive 67/548/EEC and following amendments and adjustments (technical adjustment XXIX);

3. Regulation (EC) 1272/2008 (CLP) of the European Parliament;
4. Regulation (EC) 1907/2006 (REACH) of the European Parliament;
5. The Merck Index. - 10th Edition;
6. Handling Chemical Safety;
7. Niosh - Registry of Toxic Effects of Chemical Substances;
8. INRS - Fiche Toxicologique (toxicological sheet);
9. Patty - Industrial Hygiene and Toxicology;
10. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition;

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product .

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Changes to previous review

The following sections were modified:

02 / 11 / 12 / 15