

### 1 . Identification of the material and supplier

#### Names

**Product name** : Permlastic Catalyst (Light-Bodied)  
**ADG** : UN3077  
**Manufacturer** : **Kerr Australia Pty Limited**  
 Unit 10, 112-118 Talavera Road  
 North Ryde, NSW 2113  
 Australia  
 Telephone no.: 1 800 643 603  
 Email general queries: kerraust.orders@sybrondental.com  
 Email technical queries: peter.green@sybrondental.com

**Emergency telephone number** : 61 401 690 670 (24 hours)

#### Uses

**Area of application** : Professional applications.  
**Material uses** : Dental product: Denture impression material.  
**Product type** : Paste.

### 2 . Hazards identification

**Classification** : Repr. Cat. 1; R61  
 Repr. Cat. 3; R62  
 Xn; R22  
 R33  
 N; R50/53

**Risk phrases** : R61- May cause harm to the unborn child.  
 R62- Possible risk of impaired fertility.  
 R22- Also harmful if swallowed.  
 R33- Danger of cumulative effects.  
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases** : S53- Avoid exposure - obtain special instructions before use.  
 S36/37- Wear suitable protective clothing and gloves.  
 S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

**Statement of hazardous/dangerous nature** : HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Health effects are based on the uncured material.

### 3 . Composition/information on ingredients

**Mixture** : Yes.  
**Synonyms** : Light-Bodied Permlastic

Ingredient name	CAS number	Concentration
Zinc oxide	1314-13-2	30-60
Lead compounds with the exception of those specified elsewhere in HSIS	1309-60-0	10-30
dimethyl sulfoxide	67-68-5	<10
Acetic acid, zinc salt, hydrate (2:1:2)	5970-45-6	<10

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### 3 . Composition/information on ingredients

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

### 4 . First-aid measures

#### First-aid measures

- Inhalation** : No special measures required. If inhaled, remove to fresh air. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Get medical attention if adverse health effects persist or are severe.
- Skin contact** : No special measures required. In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms occur.
- Eye contact** : No special measures are required. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
- Protection of first-aiders** : In case of major fire and large quantities: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Advice to doctor** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### 5 . Fire-fighting measures

#### Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : In case of major fire and large quantities: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.  
No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Hazchem code** : 2Z

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### 6 . Accidental release measures

- Personal precautions** : Low release. For professional use only. Handling of product in very small amounts or in situations where release is highly unlikely
- Environmental precautions** : Low release. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

#### Methods for cleaning up

- Small spill** : Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.
- Large spill** : Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

### 7 . Handling and storage

- Handling** : No special measures are required for small quantities under normal and intended conditions of product use. For professional use only. Put on appropriate personal protective equipment (see Section 8). Handle with care and dispose of in a safe manner.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- Combustible liquid** Not applicable.

### 8 . Exposure controls/personal protection

#### Occupational exposure limits

Ingredient name	Exposure limits
Zinc oxide	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Dust STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Fume
Lead compounds with the exception of those specified elsewhere in HSIS	<b>Safe Work Australia (Australia, 1/2014).</b>  TWA: 0.15 mg/m <sup>3</sup> , (as Pb) 8 hours. Form: Dust and fumes

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### Exposure controls

- Engineering measures** : No special measures are required for small quantities under normal and intended conditions of product use.
- Hygiene measures** : No special measures are required for small quantities under normal and intended conditions of product use.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

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### 8 . Exposure controls/personal protection

- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Respiratory** : No special measures are required for small quantities under normal and intended conditions of product use.
- Skin** : No special measures are required for small quantities under normal and intended conditions of product use.
- Environmental exposure controls** : No special measures are required for small quantities under normal and intended conditions of product use.

### 9 . Physical and chemical properties

- Physical state** : Solid. [Paste.]
- Colour** : Brown. / Purple. Grey.
- Odour** : Fruity. [Slight]
- Boiling point** : Not available.
- Melting point** : Not available.
- Vapour pressure** : Not available.
- Relative density** : >1
- Flash point** : Not available.
- Flammable limits** : Not available.
- Vapour density** : Not available.
- pH** : Not available.
- Viscosity** : Not available.
- Auto-ignition temperature** : Not available.
- Solubility** : Insoluble in the following materials: cold water and hot water.

### 10 . Stability and reactivity

- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
- Conditions to avoid** : Avoid excessive heat.
- Materials to avoid** : Reactive or incompatible with the following materials: reducing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### 11 . Toxicological information

#### Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : Harmful if swallowed.
- Skin contact** : No known significant effects or critical hazards.
- Eye contact** : No known significant effects or critical hazards.
- Acute toxicity**

**Permlastic Catalyst (Light-Bodied)****11 . Toxicological information**

Product/ingredient name	Result	Species	Dose	Exposure
dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Acetic acid, zinc salt, hydrate (2:1:2)	LD50 Oral	Rat	794 mg/kg	-

**Conclusion/Summary** : Not available.

**Potential chronic health effects****Chronic toxicity**

**Conclusion/Summary** : Not available.

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Acetic acid, zinc salt, hydrate (2:1:2)	Skin - Mild irritant	Rabbit	-	100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

**Conclusion/Summary****Skin**

: Mucosal tissue: the average mucosal irritation score was within acceptable limits. The test article was not considered an irritant to the mucosal tissue of the rabbit and therefore not irritating to the mouth.

**Sensitiser**

Product/ingredient name	Route of exposure	Species	Result
Permlastic Catalyst (Light-Bodied)	skin	Guinea pig	Not sensitizing

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

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### 11 . Toxicological information

Product name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Lead compounds with the exception of those specified elsewhere in HSIS	-	-	Repr. Cat. 1; R61	Repr. Cat. 3; R62

- Chronic effects** : Danger of cumulative effects.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Can cause birth defects.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : May impair fertility, based on animal data.

#### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Eyes** : No specific data.
- Target organs** : Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, mucous membranes, peripheral nervous system, gastrointestinal tract, upper respiratory tract, eyes, central nervous system (CNS).

### 12 . Ecological information

- Ecotoxicity** : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Zinc oxide	Acute IC50 1.85 mg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute IC50 46 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
dimethyl sulfoxide	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water Chronic NOEC 6 ppb Fresh water	Fish - Pimephales promelas Fish - Poecilia reticulata - Adult	96 hours 16 weeks

- Conclusion/Summary** : Not available.

#### Other ecological information

##### Persistence/degradability

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### 12 . Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
dimethyl sulfoxide	301C Ready Biodegradability - Modified MITI Test (I)	3.1 % - 14 days	-	-

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
dimethyl sulfoxide	-	-	Not readily

#### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Zinc oxide	-	60960	high
dimethyl sulfoxide	-1.35	3.16	low

**Other adverse effects** : No known significant effects or critical hazards.

### 13 . Disposal considerations

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

### 14 . Transport information

#### International transport regulations

Regulation	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N. O.S. (lead dioxide)	9	III	 	The product is not regulated as a dangerous good when transported by road or rail in either an IBC, or in other container types if ≤500 kg. The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  <b>Hazchem code</b> 2Z  <b>Special provisions</b> 274, 331, 335, AU01

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**14 . Transport information**

<p><b>ADR</b></p>	<p>UN3077</p>	<p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N. O.S. (lead dioxide)</p>	<p>9</p>	<p>III</p>	 	<p>The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b><u>Hazard identification number</u></b> 90</p> <p><b><u>Limited quantity</u></b> 5 kg</p> <p><b><u>Special provisions</u></b> 274, 335, 601, 375</p> <p><b><u>Tunnel code</u></b> (E)</p>
<p><b>IMDG</b></p>	<p>UN3077</p>	<p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N. O.S. (lead dioxide). Marine pollutant (zinc oxide, lead dioxide)</p>	<p>9</p>	<p>III</p>	 	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b><u>Emergency schedules (EmS)</u></b> F-A, S-F</p> <p><b><u>Special provisions</u></b> 274, 335, 966, 967, 969</p> <p><b><u>IMDG Code Segregation group</u></b> 7 - Heavy metals and their salts (including their organometallic compounds) 9 - Lead and its compounds</p>

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### 14 . Transport information

<b>IATA</b>	UN3077	Environmentally hazardous substance, solid, n.o.s. (lead dioxide)	9	III	 	The environmentally hazardous substance mark is not required when transported in sizes of $\leq 5$ L or $\leq 5$ kg. <b>Passenger and Cargo Aircraft</b> Quantity limitation: 400 kg Packaging instructions: 956 <b>Cargo Aircraft Only</b> Quantity limitation: 400 kg Packaging instructions: 956 <b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 30 kg Packaging instructions: Y956 <b>Special provisions</b> A97, A158, A179, A197
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PG\* : Packing group

### 15 . Regulatory information

#### [Standard Uniform Schedule of Medicine and Poisons](#)

Not regulated.

#### [Control of Scheduled Carcinogenic Substances](#)

<a href="#">Ingredient name</a>	<a href="#">Schedule</a>
Lead compounds with the exception of those specified elsewhere in HSIS	Prohibited [For abrasive blasting at a concentration of greater than 0.1% as lead or which would expose the operator to levels in excess of those set in the regulations covering lead]

**Australia inventory (AICS)** : All components are listed or exempted.

**EU Classification** : Repr. Cat. 1; R61  
Repr. Cat. 3; R62  
Xn; R22  
R33  
N; R50/53

### 16 . Other information

**Person who prepared the MSDS** :

**Date of previous issue** : 1/6/2014

**Date of issue/ Date of revision** : 5/15/2015

**Version** : 2

 Indicates information that has changed from previously issued version.

#### Disclaimer

**Version** : 2

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## **16 . Other information**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.