

KERR

Material Safety Data Sheet

in accordance with Community Regulation 2006/1907/EC (R.E.A.Ch.)

Revision Date: 21st May 2009

SECTION 1

Product & Company identification

1.1 Product name

OPTIBOND ALL IN ONE

1.2 Uses/Application:

Dental self-etching adhesive.

1.3 Company (Name, address and info phone number)

Kerr Corporation

1717 West Collins Avenue

92867 Orange – CALIFORNIA (U.S.A.)

Free phone number: 00-800-41-050-505

1.4 Emergency phone (according to communitarian directive 99/45/EC, article 17)

+39.081.8508.325 (08.00-17.00, European time, GMT+1)

E-mail address: safety@kerrhawe.com

SECTION 2

Hazard identification

2.1 Hazard classification (according to communitarian directives 67/548/EEC & 99/45/EC)

Highly Flammable; Sensitizing; Harmful; Irritant.

2.2 Other hazard

Uncured material may be harmful if swallowed.

SECTION 3

Composition/Information on Ingredients

(according to communitarian directives 67/548/EEC, 99/45/EC & 2001/58/EC)

3.1 Hazardous ingredients

HAZARDOUS INGREDIENTS	%	HAZARD SYMBOLS	RISK PHRASES	CAS N.	EINECS N.
Acetone	35-45	F; Xi	11-36-66-67	67-64-1	200-662-2
HydroxyEthylMethAcrylate (HEMA)	8-11	Xi	36/38-43	868-77-9	212-782-2
Ethyl Alcohol	4-9	F	11	64-17-5	200-578-6
Disodium Hexafluorosilicate	0,5-1,5	T	23/24/25	16893-85-9	240-934-8

3.2 Other non-hazardous ingredients

None.

SECTION 4**First aid measures**

- 4.1 Treatment for eye contact: Flush with water for 15 minutes. If irritation persists, seek medical attention.
- 4.2 Treatment for skin contact: Wash skin thoroughly with soap and water. Use hand cream. If irritation persists, seek medical attention.
- 4.3 Treatment for inhalation (breathing): Remove to fresh air. If irritation persists, seek medical attention.
- 4.4 Treatment for ingestion (swallowing): Do not give liquids if person is unconscious. Seek medical attention.

SECTION 5**Fire-fighting Measures**

- 5.1 Suitable extinguishing media: Carbon dioxide, alcohol foam and dry chemical foam.
- 5.2 Forbidden extinguishing media: Unknown.
- 5.3 Special fire fighting measures: None. Wear self-contained breathing apparatus and full protective gear. Use water spray to cool containers.
- 5.4 Unusual fire and explosion hazards: High temperature might generate hazardous vapours of hydrofluoric acid.
- 5.5 Special protection equipment: Sealed overall against liquids and gases.

SECTION 6**Accidental Release Measures**

- 6.1 Personal Precautions: Adopt the same precautions listed in section 8.
- 6.2 Environmental Precautions: Keep spilled material out of sewers.
- 6.3 Reclaiming Methods: Dilute with water, wipe up with cloth and transfer to suitable container for disposal. Dispose of in accordance with local regulations.

SECTION 7**Handling and Storage** (according to article 5 of communitarian directive 98/24/EC)

- 7.1 Handling Precautions: Handle away from sources of ignition. Adopt precautions listed in section 8.
- 7.2 Precautions in case of Fire and Explosion: Extinguish all ignition sources.
- 7.3 Storage Conditions: Store in a cool, dry place, away from heat, light and ignition sources.
- 7.4 Suggested container(s): The original containers provided by manufacturer (or metal containers).
- 7.5 Indication for Combined Storage: Avoid contact with acids and strong oxidizing agents.
- 7.6 Environmental precautions: Avoid contamination of sewers with product.
- 7.7 Other Precautions: Use according to directions and good personal hygiene and safety practices.

SECTION 8**Exposure controls/personal protection**

<i>8.1 Exposure Limits:</i>	<u>TWA/TLV</u> : 500 ppm (Acetone); 1000 ppm (Ethyl Alcohol);
<i>8.2 Exposure control measures</i>	
<i>8.2.1 Precautionary Measures:</i> (according to communitarian directives 89/686/EEC & article 4 of 98/24/EC)	
Ventilation:	<u>Local Exhaust Ventilation</u> : Sufficient to keep vapours under exposure limits. <u>Special Ventilation</u> : None required. <u>Mechanical (General) Ventilation</u> : Good general ventilation recommended. <u>Other Ventilation</u> : None required.
Respiratory Protection:	Avoid breathing of vapours of the material. In case of high vapours concentration, use a mask with a filter against organic vapours.
Hands Protection:	Nitrile or Vinyl gloves are sufficient for short contact and for small quantity handling. Otherwise, impervious rubber or PVA gloves are recommended.
Eyes Protection:	Safety glasses may be used.
Skin Protection:	Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure to uncured material.
Other Protective Equipments:	It would be better use a lab coat.
<i>Measures listed in this paragraph are to be considered as indications and NOT prescriptions (89/656/EEC)</i>	
<i>8.2.2 Environment exposure control measures</i> Not Applicable.	

SECTION 9**Physical and Chemical Properties**

<i>9.1 General information</i>	
<u>Appearance</u> : Slightly viscous yellowish liquid.	<u>Odour</u> : Fruity/Acetone odour.
<i>9.2 Information related to health, safety and environment</i>	
<u>pH</u> : Not established (N/E)	<u>Relative density</u> : N/E
<u>Boiling point</u> : N/E	<u>Specific gravity</u> : Not determined
<u>Flash point</u> : < 13°C	<u>Solubility</u> : Partial
<u>Flammability</u> : Flammable.	<u>Partition coefficient n-octanol/water</u> : N/E
<u>Lower Explosivity Limit (L.E.L.)</u> : 2,6 (Acetone)	<u>Viscosity</u> : N/E
<u>Upper Explosivity Limit (U.E.L.)</u> : 13,0 (Acetone)	<u>Vapor density (air = 1)</u> : N/E
<u>Oxidizing properties</u> : None	<u>Evaporation rate (n-butane = 1)</u> : N/E
<u>Vapour pressure</u> : 233 hPa @ 20°C (Acetone)	<u>Melting point</u> : N/E
<i>9.3 Other information (according to communitarian directive 94/9/EC):</i>	
<u>Miscibility</u> : Not available	<u>Conducibility</u> : Not available
<u>Solubility in Lipids</u> : Not available	<u>Gases Group</u> : Not applicable

SECTION 10**Stability and Reactivity**

Stability: Stable if stored as directed.

10.1 Conditions to avoid: Heat, sparks and open flame.

10.2 Materials to avoid (incompatibility): Acids and strong oxidizing agents.

10.3 Hazardous decomposition products: Carbon Oxides.

Other precautions:

Hazardous Polymerization Products: Not determined

Safety significance in case of change in physical appearance: Unknown

Stabilizers: The product is stabilized with non-hazardous polymerization inhibitors.

SECTION 11**Toxicological Information**

CMR effects (Carcinogenicity, Mutagenicity and toxicity for reproduction): None.

Effects and hazards of eye contact: May cause severe irritation.

Effects and hazards of skin contact: May cause edema, erythema and itch; sensitization in sensitive individuals.

Effects and hazards of Inhalation (Breathing): Depression of central nervous system: symptoms may be include cephalaea, dizziness, drowsiness, coordination deficiency, reflection reduction, speak confusedly, stunned condition and unconsciousness. Irritation (upper respiratory tract): symptoms may be include pain to nose and throat, cough, sneeze.

Effects and hazards of Ingestion (Swallowing): May cause irritation of gastrointestinal tissues: symptoms may include pain, vomit, nausea, tautness of abdomen when pressed, blood in vomit and faeces. Uncured material may be harmful if swallowed.

Effects for prolonged Exposure: Pneumonia from inhalation: symptoms may be include cough, respiratory difficulty, dyspnoea, blood in expectoration and pneumonia that may be mortal.

Toxic-kinetic effects: Unknown.

Effects on metabolism: Unknown.

Toxicological data for ingredients:

ACETONE	LD ₅₀ (oral rat)	5800 mg/Kg
	LD ₅₀ (skin rabbit)	20000 mg/Kg
	LC ₅₀ (inhalation rat/4 hours)	150 mg/l
HEMA	LD ₅₀ (oral rat)	> 5000 mg/Kg
	LD ₅₀ (skin rabbit)	> 3000 mg/Kg
	LC ₅₀ (inhalation rat/3 weeks)	> 0,5 mg/Kg

Disodium Hexafluorosilicate	LD ₅₀ (oral rat & rabbit)	125 mg/Kg
	LD ₅₀ (oral mouse)	70 mg/l
Ethyl Alcohol	LC ₅₀ (inhalation mouse/4hrs)	39g/m ³
	LC ₅₀ (inhalation rat/10hrs)	2000ppm
	LD _{L0} (intraperitoneal dog)	3000mg/Kg
	LD ₅₀ (intraperitoneal guinea pig)	3414mg/Kg
	LD ₅₀ (intraperitoneal hamster)	5068mg/Kg
	LD ₅₀ (intraperitoneal mammal)	4300mg/Kg
	LD ₅₀ (intraperitoneal mouse)	933mg/Kg
	LD ₅₀ (intraperitoneal rat)	3750mg/Kg
	LD ₅₀ (intraperitoneal rabbit)	963mg/Kg
	LD _{L0} (intravenous cat)	3945mg/Kg
	LD _{L0} (intravenous chicken)	8216mg/Kg
	LD _{L0} (intravenous dog)	1600mg/Kg
	LD ₅₀ (intravenous mouse)	1973mg/Kg
	LD ₅₀ (intravenous rat)	1440mg/Kg
	LD ₅₀ (intravenous rabbit)	2374mg/Kg
	LD _{L0} (oral cat)	6000mg/Kg
	LD _{L0} (oral child)	2000mg/Kg
	LD _{L0} (oral dog)	5500mg/Kg
	LD ₅₀ (oral guinea pig)	5560mg/Kg
	LD _{L0} (oral human)	1400mg/Kg
	TD _{L0} (oral man)	700mg/Kg
	TD _{L0} (oral man)	50mg/Kg
	TD _{L0} (oral man)	1430mg/Kg
	LD ₅₀ (oral mouse)	7500mg/Kg
	LD ₅₀ (oral rat)	7060 mg/Kg
	LD ₅₀ (oral rabbit)	6300mg/Kg
	TD _{L0} (oral woman)	6300mg/Kg
	LD _{L0} (subcutaneous chicken)	5g/Kg
	LD _{L0} (subcutaneous dog)	6000mg/Kg
	LD _{L0} (subcutaneous frog)	7100mg/Kg
	LD _{L0} (subcutaneous infant)	19440mg/Kg
	LD _{L0} (subcutaneous mouse)	4g/Kg
	LD _{L0} (subcutaneous pigeon)	5g/Kg
	LD _{L0} (skin rabbit)	20g/Kg

SECTION 12**Ecological Information**

This product has not known ecological hazardous effects.

12.1 Eco-toxicity: Not available

12.2 Mobility: Not available

12.3 Persistence and degradability: Not available

12.4 Bioaccumulative potential: Not available

12.5 Results of PBT (Persistent Bio-Toxicity) assessment: Not available

12.6 Other adverse effects: Not available

Aquatic toxicity data for ingredients:

HEMA Easily biodegradable: 84% (OCSE 301D, closed bottle test, 28 days)	LC ₅₀ (Fish, Oryzias Latipes)	> 100 mg/l (OCSE 203, 96h)
	LC ₅₀ (Fish, Oryzias Latipes)	> 100 mg/l (OCSE 204, 14 days)
	NOEC (Daphnia magna)	24,1 mg/l (OCSE 202/2, 21 days)
	EC ₅₀ (Daphnia magna)	380 mg/l (OCSE 202/1, 48h)
	EC ₅₀ (Selenastrum Copricornutum)	345 mg/l (OCSE 201, 72h)
	EC ₅₀ (Pseudomonas fluorescens)	> 3000 mg/l (DEV LB, 16h)
Disodium Hexafluorosilicate	LC ₅₀ (Fishes)	10-100 mg/l (after 48 hours)
Ethyl Alcohol	LC ₅₀ (Oncorhynchus mykiss):	10400-13000 mg/l (96hrs)
	LC ₅₀ (Pimephales promelas):	15300 mg/l (96hrs)
	LC ₅₀ (Other fishes):	10000 mg/l (24hrs)
	LC ₅₀ (Daphnia magna):	9,3 mg/l (48hrs)

SECTION 13**Disposal considerations**

Dispose of in accordance with local regulations.

SECTION 14**Transport information**14.1 Sea transportation (IMDG)UN number: 1090 Class: 3 Packing group: II EMS-No: F-E, S-DStowage/segregation: Category E; Limited Quantity: 1 LtProper shipping name: Acetone14.2 Air transportation (ICAO/IATA)UN number: 1090 Class: 3 Packing group: II Label: 3Maximum quantities: 5 Lt (Passenger Aircraft); 60 Lt (Cargo Aircraft only)Limited Quantity: 1 Lt Proper shipping name: Acetone14.3 Transportation by Road/Railway (RID/ADR)UN number: 1090 Class: 3 Packing group: II (3°b); Hazard identific. n°: 33 Label: 3Limited Quantity LQ4: (3 Lt/30 Kg for combined, 1 Lt/20Kg for bandaged trays/pallets).Proper shipping name: Acetone**SECTION 15** (Classification according to communitarian directives 67/548/EEC & 99/45/EC)**Regulatory information**

Hazard labelling not required.

This product is an exempted medical device (directive 1999/45/EC, article 1, paragraph 5g).

SECTION 16**Other information**16.1 Risk phrases of all ingredients

- 11 Highly flammable.
 43 May cause sensitisation by skin.
 36/38 Irritating to eyes and skin.
 66 Repeated exposure may cause skin dryness or cracking
 67 Vapours may cause drowsiness and dizziness
 23/24/25 Toxic by inhalation, in contact with the skin and if swallowed

16.1.1 Safety phrases of all ingredients

- 1/2 Keep locked up and out of reach of children.
 16 Keep away from sources of ignition - No Smoking!
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 28 After contact with skin, wash immediately with plenty of water.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

16.2 Sources of key data used to compile the Safety Data Sheet:

European Chemicals Bureau (ECB – www.ecb.jrc.it)

European chemical Substances Information System (ESIS - www.ecb.jrc.it/esis)

A.C.G.I.H. (www.acgih.org)

N.I.O.S.H. (www.cdc.gov/niosh/)

O.S.H.A. (www.osha.gov/)

U.E. (www.europa.eu/index_it.htm)

I.A.R.C. (www.iarc.fr/)

N.T.P. (www.ntp.niehs.nih.gov)

European Community Directives:

67/548/EEC:	Classification, packaging and labelling of dangerous substances.
99/45/EC:	Directive concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.
2001/58/EC:	Second amendment of directive 91/155/EEC for the definition of a detailed arrangement of specific information relating to dangerous preparations (art. 14 of 99/45/EC) and substances (art. 27 of 67/548/EEC).
89/656/EEC:	Directive on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace (third individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC).
89/686/EEC:	Approximation of the laws of the Member States relating to personal protective equipment.
94/9/EC:	Approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres
98/24/EC:	Protection of the health and safety of workers from the risks related to chemical agents at work.

Document modification history: First version in compliance of Community Regulation 2006/1907/EC
(R.E.A.Ch.)

CAUTION: PRODUCT FOR PROFESSIONAL USE

The information on this Safety Sheet is based on presently available data and to our best knowledge for the correct handling of the product under normal conditions. Any use of this product in any way not indicated on this Sheet or the use of this product together with any other process/procedure will be exclusively under the user's responsibility. This document does not constitute explicit or implicit warranty of product quality or fitness for a particular purpose.