

## PowerBond Primer

## Safety Data Sheet

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

## 1.1. Product identifier

Product name **PowerBond PRIMER**

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

Intended use **Ink-Jet applications UV inks**

## 1.3. Details of the supplier of the safety data sheet

Name **Inkcups Now, Corp.**  
Full address **310 Andover Street**  
District and Country **Danvers, MA 01923**  
**United States**

Tel. **+1-978-646-8980**

Fax **+1-978-646-8981**

e-mail address of the competent person

responsible for the Safety Data Sheet **compliance@inkcups.com**

Product distribution by:

## 1.4. Emergency telephone number

For urgent inquiries refer to **CHEMTREC 1-800-424-9300**

## SECTION 2. Hazards identification

## 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, acute toxicity, category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

## 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

## PowerBond Primer

Hazard pictograms:



Signal words:

Warning

Hazard statements:

<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H400</b>	Very toxic to aquatic life.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>EUH208</b>	Contains: TRIMETHYLOLPROPANE TRIACRYLATE May produce an allergic reaction.

Precautionary statements:

<b>P280</b>	Wear protective gloves / eye protection / face protection.
<b>P273</b>	Avoid release to the environment.
<b>P391</b>	Collect spillage.
<b>P261</b>	Avoid breathing dust, gas or vapours.
<b>P312</b>	Call a POISON CENTRE or a doctor if you feel unwell.

<b>Contains:</b>	exo-1,7,7-trimetilbiciclo(2.2.1)ept-2-il acrilato 1-methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate Siloxanes and silicones, 3- [3- (acetoxo) -2-hidroxiopropioxi] propil Me, di-Me, 3- [2 hidroxi-3 - [(1-oxo-2-propen-1-yl) oxy] propoxy] propil 2-Fenoksietanol acrilato acrilato, 2- (2-etoksi etoksi) etil fenil bis (2,4,6-trimetilbenzoi) fosforina ossido 3,5,5-trimetilcicloesil acrilato 2,4,6-trimetilbenzoiifenilfosforina acido etil ester
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### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
exo-1,7,7-trimetilbiciclo(2.2.1)ept-2-il acrilato		

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CAS 5888-33-5	$28,5 \leq x < 30$	Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411
EC 227-561-6		
INDEX 607-133-00-9		
Reg. no. 01-2119957862-25-0001		
<b>3,5,5-trimethylcyclohexyl acrylate</b>		
CAS 86178-38-3	$15 \leq x < 16,5$	Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411
EC 289-200-9		
INDEX 607-133-00-9		
Reg. no. 01-2120747316-53-0000		
<b>acrylate, 2- (2-ethoxy ethoxy) ethyl</b>		
CAS 7328-17-8	$13,5 \leq x < 15$	Acute Tox. 4 H302, Acute Tox. 4 H312, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1A H317
EC 230-811-7		
INDEX -		
<b>EBECRYL LED 02</b>		
CAS	$9 \leq x < 10,5$	STOT SE 3 H336, Aquatic Chronic 2 H411
EC		
INDEX -		
<b>2,4,6-trimethylbenzoylphenylphosphinic acid ethyl ester</b>		
CAS 84434-11-7	$4 \leq x < 4,5$	Skin Sens. 1B H317, Aquatic Chronic 2 H411
EC 282-810-6		
INDEX -		
Reg. no. 01-2119987994-10-0000		
<b>phenyl bis (2,4,6-trimethylbenzoyl) phosphine oxide</b>		
CAS 162881-26-7	$3 \leq x < 3,5$	Skin Sens. 1A H317, Aquatic Chronic 4 H413
EC 423-340-5		
INDEX 015-189-00-5		
Reg. no. 01-2119489401-38-0000		
<b>1-methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate</b>		
CAS 1065336-91-5	$2 \leq x < 2,5$	Skin Sens. 1 H317, Aquatic Chronic 1 H410 M=1
EC 915-687-0		
INDEX -		
<b>2-Phenoxyethanol acrylate</b>		
CAS 48145-04-6	$1,5 \leq x < 2$	Repr. 2 H361d, Skin Sens. 1A H317, Aquatic Chronic 2 H411
EC 256-360-6		
INDEX -		
Reg. no. 01-2119980532-35-xxxx		
<b>reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate</b>		
CAS 125643-61-0	$1 \leq x < 1,5$	Aquatic Chronic 4 H413
EC 406-040-9		

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INDEX 607-530-00-7

Reg. no. 01-0000015551-76-0014

**Siloxanes and silicones, 3- [3-(acetoxo)-2-hydroxypropioxy] propyl Me, di-Me, 3- [2 hydroxy-3 - [(1-oxo-2-propen-1-yl) oxy] propoxy] propyl**

CAS 125455-51-8

 $1 \leq x < 1,5$ 

Skin Sens. 1A H317

EC 603-069-0

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**TRIMETHYLOLPROPANE  
TRIACRYLATE**

CAS 15625-89-5

 $0,25 \leq x < 0,35$ 

Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: D

EC 239-701-3

INDEX 607-111-00-9

Reg. no. 01-2119489896-11-xxxx

**Canphene**

CAS 79-92-5

 $0,1 \leq x < 0,2$ 

Flam. Sol. 2 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 201-234-8

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Reg. no. 01-2119446293-40

**1,7,7-trimethyl tricyclo [2.2.1.02,6]  
heptane**

CAS 508-32-7

 $0,1 \leq x < 0,2$ 

Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 208-083-7

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The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures****4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

**SECTION 5. Firefighting measures**

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### 5.1. Extinguishing media

#### SUITABLE EXTINGUISHING EQUIPMENT

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

#### UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

### 5.2. Special hazards arising from the substance or mixture

#### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

### 5.3. Advice for firefighters

#### 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.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

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

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use

compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory References:

ITA Italia Decreto Legislativo 9 Aprile 2008, n.81  
TLV-ACGIH ACGIH 2018

#### exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00092	mg/l
Normal value in marine water	0,000092	mg/l
Normal value for fresh water sediment	0,145	mg/kg/d
Normal value for marine water sediment	0,0145	mg/kg/d
Normal value for water, intermittent release	0,00704	mg/l
Normal value of STP microorganisms	2	mg/l
Normal value for the terrestrial compartment	0,0285	mg/kg/d

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	0,83 mg/kg/d				
Skin			VND	0,83 mg/kg/d			VND	1,39 mg/kg/d

#### 3,5,5-trimethylcyclohexyl acrylate

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00059	mg/l
Normal value in marine water	0,000059	mg/l
Normal value for fresh water sediment	0,029	mg/kg
Normal value for marine water sediment	0,003	mg/kg
Normal value for water, intermittent release	0,0059	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,005	mg/kg

#### 2,4,6-trimethylbenzoylphenylphosphinic acid ethyl ester



	systemic	systemic	systemic
Oral	1,25 mg/kg bw/d		
Inhalation	0,58 mg/m3		2,35 mg/m3
Skin	1,25 mg/kg bw/d		2,5 mg/kg bw/d

### 2-Phenoxyethanol acrylate

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,04	mg/kg/d
Normal value for marine water sediment	0,004	mg/kg/d
Normal value for water, intermittent release	0,0121	mg/l
Normal value of STP microorganisms	1,77	mg/l
Normal value for the terrestrial compartment	0,006	mg/kg/d

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation							77 mg/m3	10 mg/m3
Skin							VND	1,5 mg/kg

### reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,018	mg/l
Normal value in marine water	0,0018	mg/l
Normal value for fresh water sediment	2	mg/kg/d
Normal value for marine water sediment	0,2	mg/kg/d
Normal value for water, intermittent release	0,018	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the food chain (secondary poisoning)	41,33	mg/kg
Normal value for the terrestrial compartment	10	mg/kg/d

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,93 mg/kg bw/d				
Inhalation				1,62 mg/m3				6,6 mg/m3
Skin				0,83 mg/kg bw/d				1,67 mg/kg bw/d

### TRIMETHYLOLPROPANE TRIACRYLATE

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00087	mg/l
Normal value in marine water	0,000087	mg/l
Normal value for fresh water sediment	0,017	mg/kg/d
Normal value for marine water sediment	0,002	mg/kg/d





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Inhalation VND 10 mg/m3 VND 3 mg/m3

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	liquid
Colour	transparent
Odour	characteristic of solvent
Odour threshold	Not available

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pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	> 60 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

**9.2. Other information**

VOC (Directive 2010/75/EC) : 22,75 %

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

**10.5. Incompatible materials**

Information not available

**10.6. Hazardous decomposition products**

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In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

**SECTION 11. Toxicological information**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on toxicological effects**Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:  
Not classified (no significant component)

LD50 (Oral) of the mixture:  
>2000 mg/kg

LD50 (Dermal) of the mixture:  
>2000 mg/kg

1-methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate

LD50 (Oral) > 2000 mg/kg Ratto / Rat

LD50 (Dermal) > 3000 mg/kg Ratto / Rat

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

LD50 (Oral) > 2000 mg/kg Ratto / Rat (OECD 420)

LD50 (Dermal) > 2000 mg/kg Ratto / Rat (OECD 402)

Siloxanes and silicones, 3- [3- (acetoxyl)-2-hydroxypropoxy] propyl Me, di-Me, 3- [2 hydroxy-3 - [(1-oxo-2-propen-1-yl) oxy] propoxy] propyl

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LD50 (Oral) > 2000 mg/kg Ratto / Rat

Canphene

LD50 (Oral) > 5000 mg/kg Ratto / Rat

LD50 (Dermal) > 2500 mg/kg Coniglio / Rabbit

3,5,5-trimethylcyclohexyl acrylate

LD50 (Oral) > 5000 mg/kg Ratto / Rat

2-Phenoxyethanol acrylate

LD50 (Oral) 5000 mg/kg Ratto / Rat

LD50 (Dermal) > 2000 mg/kg Ratto / Rat

2,4,6-trimethylbenzoylphenylphosphinic acid ethyl ester

LD50 (Oral) > 2000 mg/kg Ratto / Rat

LD50 (Dermal) > 2000 mg/kg Ratto - Rat

acrylate, 2- (2-ethoxy ethoxy) ethyl

LD50 (Oral) 1860 mg/kg Ratto / Rat

LD50 (Dermal) > 1000 mg/kg/24h Coniglio / Rabbit

phenyl bis (2,4,6-trimethylbenzoyl) phosphine oxide

LD50 (Oral) > 2000 mg/kg Ratto / Rat

LD50 (Dermal) > 2000 mg/kg Ratto / Rat

TRIMETHYLOLPROPANE TRIACRYLATE

LD50 (Oral) 3680 mg/kg 3680 - 5000 - Ratto / Rat - Ingestione

LD50 (Dermal) > 2000 mg/kg Ratto / Rat

LC50 (Inhalation) 0,55 mg/l Nessuna mortalità 6h - Ratto / Rat - (polvere/nebbia)

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exo-1,7,7-trimetilbicio(2.2.1)ept-2-il acrilato

LD50 (Oral) > 4350 mg/kg Ratto / Rat

LD50 (Dermal) 3000 mg/Kg/24h Coniglio / Rabbit

gamma-methacryloxy propyl trimethoxy silane

LD50 (Oral) > 2000 mg/kg Ratto / Rat

LD50 (Dermal) > 2000 mg/kg Ratto / Rat

### SKIN CORROSION / IRRITATION

Causes skin irritation

### SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

### RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

May produce an allergic reaction. Contains: TRIMETHYLOLPROPANE TRIACRYLATE

### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

### CARCINOGENICITY

Does not meet the classification criteria for this hazard class

### REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

### STOT - SINGLE EXPOSURE

May cause respiratory irritation

### STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

### ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

### SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms.

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

#### 12.1. Toxicity

1-methyl 1,2,2,6,6-pentamethylpiperidin-4-yl  
decanedioate bis(1,2,2,6,6-  
pentamethylpiperidin-4-yl) decanedioate  
LC50 - for Fish

0,9 mg/l/96h Danio rerio

EC50 - for Crustacea

20 mg/l/24h 24 h / Daphnia magna

EC50 - for Algae / Aquatic Plants

1,68 mg/l/72h Desmodesmus subspicatus

Chronic NOEC for Crustacea

> 6,3 mg/l Daphnia magna

Chronic NOEC for Algae / Aquatic Plants

0,22 mg/l Desmodesmus subspicatus

reaction mass of isomers of: C7-9-alkyl 3-  
(3,5-di-tert-butyl-4-hydroxyphenyl)propionate  
LC50 - for Fish

> 0,0011 mg/l/96h Fish (OECD 203)

EC50 - for Crustacea

> 0,224 mg/l/48h Daphnia (OECD 209)

Chronic NOEC for Fish

0,36 mg/l Fish (OECD 210)

Chronic NOEC for Crustacea

10 mg/l/21d Daphnia (OECD 211)

Chronic NOEC for Algae / Aquatic Plants

100 mg/l/72h Algae (OECD 201)

Siloxanes and silicones, 3- [3- (acetoxo) -2-  
hydroxypropioxy] propyl Me, di-Me, 3- [2  
hydroxy-3 - [(1-oxo-2-propen-1-yl) oxy]  
propoxy] propyl

EC50 - for Crustacea

> 100 mg/l/48h Daphnia magna (OECD 202)

Canphene

LC50 - for Fish

0,72 mg/l/96h Brachydanio rerio

EC50 - for Crustacea

22 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants

> 1000 mg/l/72h Desmodesmus subspicatus

3,5,5-trimethylcyclohexyl acrylate

LC50 - for Fish

1,9 mg/l/96h Danio rerio

EC50 - for Crustacea

14,43 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants

> 0,59 mg/l/72h Pseudokirchneriella subcapitata

EC10 for Algae / Aquatic Plants

19,9 mg/l/72h Pseudokirchneriella subcapitata

2-Phenoxyethanol acrylate

LC50 - for Fish

10 mg/l/96h Fish

EC50 - for Crustacea

1,21 mg/l/48h Daphnia magna OECD TG 202

EC50 - for Algae / Aquatic Plants

4,4 mg/l/72h Desmodesmus subspicatus ISO 8692

EC10 for Algae / Aquatic Plants

0,71 mg/l/72h Desmodesmus subspicatus

2,4,6-trimethylbenzoylphenylphosphinic acid  
ethyl ester

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LC50 - for Fish	1,89 mg/l/96h Brachydanio rerio
EC50 - for Crustacea	2,26 mg/l/48h Daphnia magna
acrylate, 2- (2-ethoxy ethoxy) ethyl	
EC50 - for Crustacea	10,56 mg/l/48h Daphnia magna (Dir 67/548/CEE, All. V)
EC50 - for Algae / Aquatic Plants	36,63 mg/l/72h Desmodesmus subspicatus (DIN 38412, Parte 9)
Chronic NOEC for Fish	10 mg/l/96h Leucidus idus (DIN 38412, Parte 15)
phenyl bis (2,4,6-trimethylbenzoyl) phosphine oxide	
LC50 - for Fish	> 0,09 mg/l/96h Brachydanio rerio (OECD 203)
EC50 - for Crustacea	> 1,175 mg/l/48h Daphnia magna (OECD 202)
EC50 - for Algae / Aquatic Plants	> 0,26 mg/l/72h Desmodesmus subspicatus (OECD 201)
Chronic NOEC for Crustacea	0,008 mg/l Daphnia magna (21 d; OECD 211)
TRIMETHYLOLPROPANE TRIACRYLATE	
LC50 - for Fish	0,87 mg/l/96h Danio rerio
EC50 - for Crustacea	19,9 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	18,8 mg/l/72h Desmodesmus subspicatus
EC10 for Algae / Aquatic Plants	1,9 mg/l/72h Desmodesmus subspicatus
exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato	
LC50 - for Fish	0,7 mg/l/96h Danio rerio
EC50 - for Algae / Aquatic Plants	1,98 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Crustacea	0,09 mg/l/21d Daphnia magna (21d)
Chronic NOEC for Algae / Aquatic Plants	0,405 mg/l/72h Pseudokirchneriella subcapitata (72d)
gamma-methacryloxy propyl trimethoxy silane	
Chronic NOEC for Fish	> 100 mg/l Brachydanio rerio (96h)
Chronic NOEC for Crustacea	> 100 mg/l Daphnia magna (48h)
Chronic NOEC for Algae / Aquatic Plants	> 100 mg/l Desmodesmus subspicatus (72h)

### 12.2. Persistence and degradability

1-methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	
Solubility in water	< 100 mg/l
NOT rapidly degradable	
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	
Solubility in water	< 0,121 mg/l
NOT rapidly degradable	



## PowerBond Primer

Canphene

Solubility in water 6,275 mg/l

NOT rapidly degradable

3,5,5-trimethylcyclohexyl acrylate

Solubility in water 18,3 mg/l

NOT rapidly degradable

2-Phenoxyethanol acrylate

Solubility in water 0,525 g/l

NOT rapidly degradable

2,4,6-trimethylbenzoylphenylphosphinic acid ethyl ester

Solubility in water 0,005 g/100 g acqua @20°C

NOT rapidly degradable

phenyl bis (2,4,6-trimethylbenzoyl) phosphine oxide

NOT rapidly degradable

TRIMETHYLOLPROPANE TRIACRYLATE

Solubility in water 500 mg/l Linee Guida 105 per il test dell'OECD

Rapidly degradable

exo-1,7,7-trimetilbicclo(2.2.1)ept-2-il acrilato

Solubility in water 19,8 mg/l

NOT rapidly degradable

gamma-methacryloxy propyl trimethoxy silane

Solubility in water Reagisce lentamente mg/l

### 12.3. Bioaccumulative potential

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate BCF

0 - 33-49 (Japanese GLP standard, Cyprinus carpio 35d)

Canphene

Partition coefficient: n-octanol/water < 4,51

BCF > 2 l/kg

## PowerBond Primer

3,5,5-trimethylcyclohexyl acrylate

Partition coefficient: n-octanol/water 4,6

2-Phenoxyethanol acrylate

Partition coefficient: n-octanol/water 2,58 @25°C

2,4,6-trimethylbenzoylphenylphosphinic acid ethyl ester

Partition coefficient: n-octanol/water 2,91 valore stimato

acrylate, 2- (2-ethoxy ethoxy) ethyl

Partition coefficient: n-octanol/water 1,2 (OECD TG 117)

phenyl bis (2,4,6-trimethylbenzoyl) phosphine oxide

BCF < 5 Cyprinus carpio (28 d; OECD 305)

TRIMETHYLOLPROPANE TRIACRYLATE

Partition coefficient: n-octanol/water 4,35

exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato

Partition coefficient: n-octanol/water 4,52 (OECD TG 1179)

BCF 37 (56 d, Metodo: Linee Guida 305 per il Test dell'OECD, Danio rerio (pesce zebra))

### 12.4. Mobility in soil

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

Partition coefficient: soil/water 4,08 EU method C.19

2-Phenoxyethanol acrylate

Partition coefficient: soil/water 2,2

2,4,6-trimethylbenzoylphenylphosphinic acid ethyl ester

Partition coefficient: soil/water 3,37

phenyl bis (2,4,6-trimethylbenzoyl) phosphine oxide

Partition coefficient: soil/water 3,85 Calcolato

TRIMETHYLOLPROPANE TRIACRYLATE

Partition coefficient: soil/water 2,2

exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato

Partition coefficient: soil/water 3,18 (Metodo. calcolato)

### 12.5. Results of PBT and vPvB assessment

## PowerBond Primer

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

### 12.6. Other adverse effects

Information not available

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

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.

Waste transportation may be subject to ADR restrictions.

#### CONTAMINATED PACKAGING

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

## SECTION 14. Transport information

### 14.1. UN number

ADR / RID, IMDG,	3082
IATA:	
ADR / RID:	In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to ADR provisions.
IMDG:	In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IMDG Code provisions.
IATA:	In accordance with SP A197, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

### 14.2. UN proper shipping name

## PowerBond Primer

ADR / RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato; 3,5,5-trimethylcyclohexyl acrylate )

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato; 3,5,5-trimethylcyclohexyl acrylate )

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (exo-1,7,7-trimetilbicciclo(2.2.1)ept-2-il acrilato; 3,5,5-trimethylcyclohexyl acrylate )

### 14.3. Transport hazard class(es)

ADR / RID: Class: 9 Label: 9



IMDG: Class: 9 Label: 9



IATA: Class: 9 Label: 9



### 14.4. Packing group

ADR / RID, IMDG, IATA: III

### 14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: Environmentally Hazardous



### 14.6. Special precautions for user

ADR / RID: HIN - Kemler: 90

Limited Quantities: 5 L

Tunnel restriction code: (-)

Special Provision: -

IMDG: EMS: F-A, S-F

Limited Quantities: 5 L

IATA: Cargo:

Maximum quantity: 450 L

Packaging instructions: 964

Pass.:

Maximum quantity: 450 L

Packaging instructions: 964

Special Instructions:

A97, A158, A197

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

**PowerBond Primer****SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EC: E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 3

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

**15.2. Chemical safety assessment**

No chemical safety assessment has been processed for the mixture and the substances it contains.

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Flam. Sol. 2</b>	Flammable solid, category 2
<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2

## PowerBond Primer

<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Skin Sens. 1A</b>	Skin sensitization, category 1A
<b>Skin Sens. 1B</b>	Skin sensitization, category 1B
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>Aquatic Chronic 1</b>	Hazardous to the aquatic environment, chronic toxicity, category 1
<b>Aquatic Chronic 2</b>	Hazardous to the aquatic environment, chronic toxicity, category 2
<b>Aquatic Chronic 4</b>	Hazardous to the aquatic environment, chronic toxicity, category 4
<b>H228</b>	Flammable solid.
<b>H361d</b>	Suspected of damaging the unborn child.
<b>H302</b>	Harmful if swallowed.
<b>H312</b>	Harmful in contact with skin.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H336</b>	May cause drowsiness or dizziness.
<b>H400</b>	Very toxic to aquatic life.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H413</b>	May cause long lasting harmful effects to aquatic life.

### LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

### GENERAL BIBLIOGRAPHY

**PowerBond Primer**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website

**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.

Provide appointed staff with adequate training on how to use chemical products.