

# **MATERIAL DATA SAFETY SHEET**

This safety data sheet has been prepared in accordance with the requirements of EC Directive 1907/2006 (REACH), and provides information relating to the safe handling and use of the product.

## **1 IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

Trade name:	Smart Bond LC
Intended use:	Cyanoacrylate
Company name:	Gestenco International AB
Address:	P.O. Box 24067 SE-400 22 Gothenburg Sweden
Emergency Phone Number:	+46 31 81 00 35
Fax Number:	+46 31 81 46 55
E-mail:	<a href="mailto:info@gestenco.com">info@gestenco.com</a>

## **2 HAZARD IDENTIFICATION**

### **Classification:**

Xi- Irritating

R36/37/38 Irritating to eyes, respiratory system and skin.

### **Marking Data:**

Xi- Irritating



### **R-phrases:**

R36/37/38 Irritating to eyes, respiratory system and skin.

### **S-phrases:**

S23 Do not inhale fumes.

S24/25 Avoid contact with skin and eyes.

S26 If the adhesive comes into contact with eyes: rinse immediately with plenty of water and seek medical advice.

### **Additional information:**

Cyanacrylate. Warning, could quickly bond skin and eyes together. Keep out of reach of children.

Contains phosphin oxide, phenyl bis (2,4,6-trimethyl-benzoyl) which could cause an allergic reaction.

**Other potential hazards:** None, when used as intended.

# MATERIAL DATA SAFETY SHEET

## 3 COMPOSITION/ INFORMATION ON INGREDIENTS

General chemical description: Cyanoacrylate adhesive

Declaration of ingredients according to CLP (EC) no 1272/2008:

Hazardous components	EC-number/ REACH registration number	Content	Classification
Ethyl cyanoacrylate 7085-85-0	230-391-5 01-2119527766-29	>80- < 100%	Irritating to the skin 2 H315 Specific target organ toxicity- single exposure 3 H335 Eye irritation 2 H319
Phosphin oxide, phenyl bis (2,4,6-trimethyl- benzoyl) 162881-26-7		>0,1-< 0,5%	Long-term hazard to the water environment 4 H413 Sensitizing to the skin 1 H317

This table shows only hazardous ingredients where a CLP classification is already available. For the full explanation of H-indications and other abbreviations, see section 16 "Other information". Substances without classification may have workplace exposure limits in the European Community.

Declaration of ingredients according to DPD (EC) No 1999/45

Hazardous components	EC-number/ REACH registration number	Content	Classification
Ethyl cyanoacrylate 7085-85-0	230-391-5 01-2119527766-29	>80- < 100%	Xi- Irritating, R36/37/38
Phosphin oxide, phenyl bis (2,4,6-trimethyl- benzoyl) 162881-26-7		>0,1-< 0,5%	R43 R53

# **MATERIAL DATA SAFETY SHEET**

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**4**

## **FIRST AID MEASURES**

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### **Inhalation**

Move to fresh air, consult doctor if persistent symptoms.

### **Skin contact**

Do not pull bonded skin apart. It may be gently peeled apart using a blunt object such as a spoon, preferably after soaking in warm soapy water. Cyanoacrylates give off heat on solidification. In rare cases a large drop will generate enough heat to cause a burn. Burns should be treated normally after the adhesive has been removed from the skin. If lips are accidentally stuck together, apply warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Gently peel or roll lips apart. Do not try to pull the lips apart with direct opposing action.

### **Eye contact**

If the eye is bonded close, release eyelashes with warm water by covering with wet pad. Cyanoacrylate will bond to eye protein and will cause periods of weeping which will help to de-bond the adhesive. Keep eye covered until de-bonding is complete, usually within 1-3 days. Do not force eye open. Medical advice should be sought in case solid particles of cyanoacrylate trapped behind the eyelid cause any abrasive damage.

### **Ingestion**

Ensure that breathing passages are not obstructed. The product will polymerise immediately in the mouth making it almost impossible to swallow. Saliva will slowly separate the solidified product from the mouth (several hours).

### **The most important symptoms and effects, both acute and delayed:**

Eyes: Irritation, ophthalmia.

Skin: Flush, inflammation.

Airways: Irritation, cough, shortness of breath and tightness in the chest.

**5**

## **FIRE FIGHTING MEASURES**

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### **Suitable extinguishing media:**

Foam, extinguishing powder, carbon dioxide, fine water spray.

### **Hazardous combustion products:**

No known.

### **Specific hazards that the substance or mixture may cause:**

In the event of a fire, carbon monoxide and carbon dioxide may be released. Cool endangered containers with water spray.

### **Special protection equipment for firefighters:**

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

# MATERIAL DATA SAFETY SHEET

## 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Ensure adequate ventilation.

**Environmental precautions:**

Do not let product enter drain.

**Clean-up methods:**

Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

**Reference to other sections:**

Consider advice in point 8.

## 7 HANDLING AND STORAGE

**Handling:**

Good ventilation is recommended when using large volumes. Use of dispensing equipment is recommended to minimize the risk of skin or eye contact.

**General hygiene measures:**

Provide for good industrial hygiene.

Wash hands repeatedly.

Do not drink, eat or smoke during handling

**Storage:**

Provide good ventilation

For optimum shelf life, store in original containers under refrigerated conditions at 2°C to 8°C (35.6-46.4°F)

**Specific end-use:**

Adhesive

## 8 EXPOSURE CONTROL/ PERSONAL PROTECTION

**Components with specific control parameters for workplaces**

Valid for: SE

Ingredient	ppm	Mg/m <sup>3</sup>	Type	Category	Remarks
Ethyl-2-cyanoacrylate 7085-85-0	2	10	Level limit of value		SWO
Ethyl-2-cyanocrylate	4	20	Short term exposure limit		SWO
Ethyl-2-cyanocrylate				Medical control necessary when handling the substance	SWO

# **MATERIAL DATA SAFETY SHEET**

**Reduction of exposure:****Respiratory protection:**

Ensure adequate ventilation.

**Hand protection:**

The use of chemical resistant gloves is recommended. Polyethylene or polypropylene gloves are recommended when handling large volumes. Do not use PVC, rubber, cotton or nylon gloves. Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If sign of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

Wear protective glasses.

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**9                    PHYSICAL AND CHEMICAL PROPERTIES**

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Physical state:	Liquid, colorless,
Odor:	Irritating
Boiling point (°C):	>149°C (>300.2°F)
Flash point:	80-93.3°C (176-199.94°F)
Vapor pressure:	<0.3 mbar
Density (20°C(68°F)	1.1 g/cm <sup>3</sup>
Solubility in water:	Polymerizes in presence of water

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**10                    STABILITY AND REACTIVITY**

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**Reactivity:**

Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.

**Chemical stability/ conditions to avoid:**

Stable under recommended conditions of storage and use.

**Risk for dangerous reactions:**

See section for reactivity

**Incompatible materials:**

None

**Hazardous decomposition products:**

Oxides of carbon.

# **MATERIAL DATA SAFETY SHEET**

## **11 TOXICOLOGICAL INFORMATION**

### **General information about toxicity:**

Preparation is classified according to conventional method that is described in the article 6 (1)(a) in the directive 1999/45/EG. Relevant available health- and ecological information for the substance that is mentioned in section 3 read as follows.

### **Acute oral toxicity**

Cyanoacrylates are considered to have relatively low toxicity. Acute oral (rat)  
LD50 >5000mg/kg. It is almost impossible to swallow as it rapidly polymerizes in the mouth.

### **Acute inhalational toxicity**

Irritating to respiratory system. Prolonged exposure to high concentrations of vapors may lead to chronic effects in sensitive individuals. In dry atmosphere (<50% humidity) vapors may irritate eyes and respiratory system.

### **Skin irritation**

Irritating to the skin. Could rapidly bond skin and eyes together. Considered to be of low toxicity: acute dermal LD50 (rabbit) >2000mg/kg. Due to polymerization at the skin surface allergic reaction is unlikely to occur.

### **Eye irritation**

Irritates eyes. Liquid product could bond eyelids. In a dry atmosphere (RH<50%) vapors may cause irritation and lachrymatory effect.

### **Acute toxicity:**

Hazardous components CAS no	Value type	Value	Exposure route	Exposure time	Species	Method
Ethyl cyanoacrylate 7085-85-0	LD50 LD50	>5000 mg/kg >2000 mg/kg	Oral Dermal		Rat Rabbit	OECD Guideline 401(Acute oral toxicity) OECD Guideline 402 (Acute dermal toxicity)

### **Corrosive/ irritant to the skin:**

Hazardous components CAS no	Results	Exposure time	Species	Method
Ethyl cyanoacrylate 7085-85-0	Slightly irritating	24h	Rabbit	OECD Guideline 404 (Acute dermal irritation/ corrosion)

### **Serious damage to the eyes:**

Hazardous components CAS no	Results	Exposure time	Species	Method
Ethyl cyanoacrylate 7085-85-0	Not irritating	72h	Rabbit	OECD Guideline 405 (Acute eye irritation/ corrosion)

# **MATERIAL DATA SAFETY SHEET**

## **Gender cell mutagenicity**

<b>Hazardous components CAS no</b>	<b>Results</b>	<b>Study type/ way of administration</b>	<b>Exposure time/ metabolic activation</b>	<b>Species</b>	<b>Method</b>
Ethyl cyanoacrylate 7085-85-0	Negative Negative Negative	Bacterial reverse mutation assay. Mammalian cell gene mutation assay. In vitro mammalian chromosome aberration test.	With and without With and without		OECD Guideline 471 (bacteria reverse mutation assay) OECD Guideline 476(In Vito Mammalian cell gene Mutation test) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

## **12 ECOLOGICAL INFORMATION**

### **General information on ecology**

The requirements for biological and chemical oxygen consumption (BOD and COD) are irrelevant.

Preparation is classified according to the conventional method described in article 6(1)(a) Directive 1999/45/EG.

Relevant available health- and ecological information for the substances described in section 3 read as follows.

### **Ecological toxicity**

Do not dispose of in sewage system, surface water and/or groundwater.

### **Mobility:**

Cured adhesives are immobile.

### **Persistence and biodegradability**

No data available.

### **Bio-accumulation**

No data available.

### **Persistence and biodegradability:**

<b>Hazardous components CAS no</b>	<b>Results</b>	<b>Exposure route</b>	<b>Degradability</b>	<b>Method</b>
Ethyl cyanoacrylate 7085-85-0		Aerobic	57%	OECD Guideline 301 D (Ready Biodegradability: Closed bottle test)
Phosphinnoxide,		Aerobic	1%	OECD Guideline 301 B (Ready

# MATERIAL DATA SAFETY SHEET

phenyl bis (2,4,6-trimethyl-benzoyl) 162881-26-7				Biodegradability: CO2 Evolution Test)
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## Bio-accumulative ability/ Mobility in soil

Hazardous components CAS no	LogKow	Bio-concentration factor (BCF)	Species	Exposure time	Tempera- ture	Method
Ethyl cyanoacrylate 7085-85-0	0,776				22°C	EU Method A.8 (Partition Coefficient)
Phosphin oxide, phenyl bis (2,4,6- trimethyl- benzoyl) 162881-26-7	5,8	<5				OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish) OECD Guideline 117 (Partition Coefficient HPLC Method)

## 13 DISPOSAL CONSIDERATIONS

### Waste treatment methods:

#### Waste handling of product:

Polymerize by slowly pouring the product into water (10:1). Could, in some cases, be deposited of as water insoluble nontoxic, solid chemical in authorized landfill or incinerated under controlled conditions.

Disposal must be made according to official regulations.

#### Waste handling of not cleaned packaging:

After use, tubes, cartons and bottles containing residuals should be disposed of as chemically contaminated waste according to official regulations.

#### Waste code:

08 04 09 waste adhesives and sealants containing organic solvent and other dangerous substances.

## 14 TRANSPORT INFORMATION

Road transport ADR:	Not dangerous goods
Railroad transport RID:	Not dangerous goods
Inland water transport AND:	Not dangerous goods
Marine transport IMDG:	Not dangerous goods

#### Air transport IATA:

#### Class:

9

#### Packaging group:



# **MATERIAL DATA SAFETY SHEET**

Packaging instructions (passenger): 906  
Packaging instructions (cargo): 906  
UN no: 3334  
Warning label: 9  
Proper shipping name: Aviation regulated liquid n.o.s. (Cyanoacrylate ester)

Primary packs containing less than 500 ml are unregulated by this mode of transport and may be shipped unrestricted.

## **15 REGULATORY INFORMATION**

**Regulation/ legislation considering the substance and/or mixture regarding security, health and environment:**

VOC- content <3%  
(1999/13/EC)

**Reference to hardened plastics:**

Sweden:  
Arbetsarkyddsstyrelsens riktlinjer AFS 2005:18 Hårdplaster gäller för denna produkt.

## **16 OTHER INFORMATION**

The labeling of this product is indicated in section 2.

Complete explanation for code abbreviations used in this document:

R36/37/38: Irritant to eyes, respiratory system and skin.  
R43: Skin contact could cause an allergic reaction.  
R53: May cause long-term adverse effect in the aquatic environment.  
H315: Skin irritant.  
H317: May cause allergic skin reaction.  
H319: May cause severe eye irritation.  
H335: May irritate respiratory system.  
H413: May cause long-term adverse effects on aquatic organisms.

### **Further information:**

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is also intended to describe our products regarding safety requirements and not to guarantee any particular properties.

This safety data sheet was prepared in accordance with Council Directive 67/548/EEC and its subsequent amendments, and in accordance with Commission Directive 1999/45/EC.

MSDS first issued: June 3, 2004  
MSDS data revised: October 27, 2008

# **MATERIAL DATA SAFETY SHEET**

MSDS data revised:	April 30, 2010
MSDS data revised:	August 23, 2010
MSDS data revised:	November 1, 2011
MSDS data revised:	August 15, 2012

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Göran Steen, August 15, 2012

# MATERIAL SAFETY DATA SHEET

This safety data sheet has been prepared in accordance with the requirements of EC Directive 91/155/EEG (and other related directives) and provides information relating to the safe handling and use of the product.

## **1. PRODUCT AND COMPANY IDENTIFICATION**

Product code: SM-003  
Trade name: **Smart-Bond etching gel**  
Manufacturer/supplier: Gestenco International AB  
P.O. Box 24067  
S-400 22 Gothenburg  
Sweden  
Emergency phone number: +46 31 81 00 35  
Fax number: +46 31 81 46 55  
E-mail: info@gestenco.com

## **2. COMPOSITION/INFORMATION ON THE COMPONENTS**

Component	Conc.(%)	CAS-no.	R-phrases	S-phrases	Classification
Phosphoric Acid	approx. 35	7664-38-2	R34	S26-45	C
Water					
Alcohol					
Silica					
Polyglycol					
Misc. additives (food grade dye, preservatives)					

## **3. HAZARD IDENTIFICATION**

Health hazards (acute & chronic): skin irritation or severe burns if prolonged exposure is allowed, possible damage to eyes.  
Carcinogenicity: no ingredient listed as carcinogen.  
Signs & symptoms of overexposure: skin, eyes and mucous membranes irritation on contact.  
Medical conditions generally aggravated by overexposure: pre-existing skin disorders or eye problems.

## **4. FIRST AID MEASURES**

### **Eye contact**

Immediately rinse with copious amounts of water. Seek medical attention as soon as possible.

### **Skin contact**

Rinse with water. Prolonged contact may destroy tissue. Seek medical attention in case of serious irritation or burns.

# MATERIAL SAFETY DATA SHEET

## **4. FIRST AID MEASURES (continued)**

### **Ingestion**

Corrosive to mouth and throat. Serve milk if available or solution of sodium bicarbonate.

### **Inhalation**

May cause burns of mucous membranes and in severe cases tissue damage. Medical attention is necessary if manifestation like coughing, chest pain and breathing difficulties occur.

## **5. FIRE FIGHTING MEASURES**

Non flammable product. Water contact acceptable if involved in fire from other sources. Can react with metals to liberate hydrogen gas which is flammable.

## **6. ACCIDENTAL RELEASE MEASURES**

Wear impervious clothing and goggles. Dispose of spilled product in accordance with local, state and federal regulations, after neutralizing with soda ash or lime. For small spills, dilute with large amounts of water and dispose in approved waste containers.

## **7. HANDLING AND STORAGE**

Store in polyethylene, polypropylene or similar acid-resistant containers. Glass is permissible for small quantities. Avoid exposure to heat. Avoid proximity of reactive metals and alkaline substances.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Avoid contact with skin and eyes. Wear protective gloves, aprons, suits and goggles when handling large quantities, or if splashing or spills may occur.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state:	Gel
Colour:	Light green
Odour:	Virtually odourless
Boiling point (C):	Approx. 100
Vapour density vs air:	Lighter
Liquid density vs water:	Heavier

# MATERIAL SAFETY DATA SHEET

## 10. STABILITY AND REACTIVITY

Generally stable. Avoid contact with alkaline materials, reactive metals. Incompatible with reactive metals, alkaline substances. Phosphoric acid vapours and phosphoric oxides may occur if exposed to extreme heat.

## 11. TOXICOLOGICAL INFORMATION

N/A

## 12. ECOLOGICAL INFORMATION

N/A

## 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations, after neutralizing with soda ash or lime. For small spills, dilute with large amounts of water and dispose in approved waste containers.

## 14. TRANSPORT INFORMATION

UN number: UN-1805 (applicable to shipment of more than 100 units)

PG:3, Class 8

Hazardous

Corrosive

## 15. REGULATORY INFORMATION

Contains: Phosphoric Acid

R-phrases

R34 Causes burns

S-phrases

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Voluntary labeling: Caution: Contains Phosphoric Acid

# MATERIAL SAFETY DATA SHEET

## 16. OTHER INFORMATION

MSDS first issued: 06.02.98  
MSDS data revised: 05.14.04

Further information may be obtained from:

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