

## Health & Safety

### Material Safety Data Sheet

#### Section 01 Chemical Product and Company Identification

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#### Section 02 Composition and Information on Ingredients

	Cas number	% by weight	TLV/PET	LC50/LD50
Alumina Trihydrate	21645-51-2	52-62	15mg/m3 OSHA PEL 10mg/m3 ACGIH TLV	Not available
Butyl Acrylate-Methyl Methacrylate	25852-37-3	30-50	Not available	Not available
Copolymer colorants	Not available	1-5	Not available	Not available

#### Section 03 Hazards Identification: Emergency Overview

Solid sheet(s) of varying colour(s), Dust(s) generated during machining may cause mechanical irritation to the skin Eyes, and respiratory system.

Routes of Entry Inhalation (dust during machining). Eye contact/skin contact.

<b>Potential ACUTE Health effects</b>	The product will not easily enter the human body. As received the product is a solid sheet. As such, there would not be any health hazards with it however, if any cutting, sanding or routing takes place, dust may be generated that may cause mechanical irritation to the eyes and respiratory tract.
<b>Eyes:</b>	Dust generated during fabrication may irritate the eyes.
<b>Skin:</b>	Any sharp edge will cut or abrade the skin. Dust generated by fabrication may cause skin sensitization. Methacrylate has been shown to cause allergic responses at high concentrations.
<b>Respiratory Tract:</b>	Dust generated during fabrication may cause irritation to respiratory tract, characterized by sneezing and coughing. May cause headache in case of long term exposure.

**Sheet** *(continued)*

<b>Potential CHRONIC Health effects</b>	Not dangerous in case of skin contact (non-corrosive for skin, non permeator by skin), or ingestion.
Carcinogenic Effects:	Not available
Mutagenic Effects:	Not available substance
Teratogenic Effects:	Not available. Is NOT toxic to blood, kidneys, lungs, the nervous system, the reproductive system, liver, mucous members.
<b>Symptoms of Overexposure</b>	No additional remark
<b>Medical Conditions</b>	No additional information

**Section 04 First Aid Measures**

<b>Eye Contact</b>	Upon contact with nuisance dust particles, flush eyes immediately with large amounts of water for a minimum of 15 minutes. Seek medical attention.
<b>Skin Contact</b>	Not expected to be a problem. May cause skin sensitization. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. If irritation persists, seek medical attention.
<b>Inhalation</b>	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Allow the victim to rest in a well ventilated area. Oxygen may be administered if breathing is difficult. Seek medical attention.
<b>Ingestion</b>	Not applicable
<b>Notes to Physician</b>	No additional information

Sheet *(continued)*

**Section 05 Fire and Explosion Data**

<b>Flammability of the Product</b>	Non-flammable
<b>Flash Points</b>	Not available L.E.L. & U.E.L.-not available.
<b>Auto-Ignition Temperature</b>	Not available
<b>Products of Combustion</b>	Some metallic oxides.
<b>Fire Hazards in Presence of Various Substances (Conditions of Flammability)</b>	Substances (Conditions of Flammability)  Non-flammable in presence of shocks, heat, oxidizing materials, reducing materials combustible materials, organic materials, metals, acids, alkalis, moisture.
<b>Explosion Hazards in Presence of Various Substances</b>	Not considered as a product risks of explosion.
<b>Fire Fighting Media and Instructions</b>	
<b>Small Fire:</b>	Use DRY chemicals, CO <sub>2</sub> , water spray or foam.
<b>Large Fire:</b>	Use water spray, fog, or foam, DO NOT use water jet.
<b>Special Remarks on Fire Hazards</b>	No additional remark
<b>Special Remarks on Explosion</b>	No additional remark

**Section 06 Accidental Release Measures**

<b>Small Spill</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container. No additional information.
<b>Large Spill</b>	No additional information

**Section 07 Handling and Storage**

<b>Precautions</b>	Do not breathe dust. If user operations generate dust, use ventilation to keep exposure airborne contaminants below the exposure limit.
<b>Storage</b>	No specific storage is required. Be sure that it is not necessary to strain to reach materials, and that shelves are not overloaded.

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**Section 08 Physical and Chemical Properties**

<b>Engineering Controls</b>	If users operations (machining, routing, sanding) generate dust, use ventilation to keep exposure to airborne contaminants below the exposure limit.
<b>Personal Protection</b>	Safety glasses. Gloves to protect against cuts and abrasions are highly recommended. Wear appropriate respirator when ventilations is inadequate (NIOSH approved).
<b>Exposure Limits</b>	Not available.

**Section 09 Exposure Controls/Personal Protection**

<b>Odor – Odorless</b>	Taste not available	Colour Varies	Colour Varies	Not available
<b>Physical state and appearance</b>	Solid	Volatility	Volatility	Not available
<b>Molecular Weight</b>	Not applicable	Odor Threshold	Odor Threshold	Not available
<b>PH (1 % soln/water)</b>	Not applicable	Evaporation rate	Evaporation rate	Not available
<b>Boiling Point</b>	Not available	Viscosity	Viscosity	Not available
<b>Melting Point</b>	Not available	Water Oil Dist.Coeff.	Water Oil Dist.Coeff.	Insoluble in water and oil
<b>Specific Gravity</b>	0.04 (Water = 1) based on data	Solubility in Water	Solubility in Water	Insoluble in water
<b>Vapor Pressure</b>	Not available	Solubility in solvents	Solubility in solvents	Insoluble in methanol, diethyl ether, n-octanol acetone

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**Section 10 Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Conditions of Instability</b>	No additional remark
<b>Chemical Instability/ Materials to Avoid</b>	Not considered to be reactive according to our database.
<b>Corrosivity</b>	Not considered to be corrosive for metals and glass according to our database.
<b>Special Remarks/ Conditions of Reactivity</b>	No additional remark
<b>Special Remarks on Corrosively</b>	No additional remark
<b>Hazardous Decomposition</b>	Not available
<b>Hazardous Polymerization</b>	Yes

**Section 11 Toxicological Information**

<b>Engineering Controls</b>	This product has not been tested for animal effects, See Section 11 for ingredient information.
<b>Personal Protection</b>	The substance is not toxic to blood, kidneys, lungs, the nervous system, the reproductive system, liver, mucous membranes.
<b>Exposure Limits</b>	No additional information.

**Section 12 Ecological Information**

<b>Ecotoxicity</b>	Not available
<b>BODS and COD</b>	Not available
<b>Toxicity of the Products of Biodegradation</b>	Not available
<b>Special Remarks on the products of Biodegradation</b>	No additional remark

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**Section 13 Disposal Considerations**

<b>Waste Disposal</b>	Use appropriate tools to put the solid in a convenient waste disposal container
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**Section 14 Transport Information**

<b>DOT/TDG Classification</b>	Not a DOT controlled material (United States)
<b>DOT/TDG Proper Shipping Name</b>	Not regulated
<b>DOT/Identification Number TDG PIN</b>	Not applicable
<b>Packing group</b>	NONE Hazardous Substances Reportable Quantity (RQ) Not available



DOT (Pictograms)



TOG (Pictograms)



ADR (Europe, Pictograms)

**Special Provision For Transport**

<b>IATA (Air Transport)</b>		<b>IMDC (Ocean Transport)</b>	
Proper Shipping Name	Not regulated	Proper Shipping Name	Not regulated
Hazard Class	Not controlled under IATA	Hazard Class	Not controlled under IMDG
Identification Number	Not applicable	Identification Number	Not applicable
Packing Group	None	Packing Group	Not applicable



IATA (Pictograms)







IMDF (Pictograms)

Sheet *(continued)*

**Section 15 Other Regulatory Information and Pictograms**

<b>Federal Regulations</b>	TSCA (Toxic Substance Control Act): All components of this product are listed on the TSCA Inventory.
	Resource Conservation & Recovery Act (RCRA)
	( 40 CFR 261) Regulated; Not Available
	CERCL. A Reportable Quantity (RQ) amount; none (lbs)
	This product may contain one or more of the following chemicals subject to the reporting requirements of SECTION 313 of TITLE III of the SUPERFUND AMENDMENT AND REAUTHORIZATION ACT of 1986 (SARA) and 40 CFR Part 372
	Cas Number, Chemical Name: NONE

**Other Classifications**

<b>WHMIS STATEMENT</b>	This product has been classified in accordance with the hazard of the CPR and the MSDS contains all the information required by the CPR	
<b>WHMIS (Canada) (Pictograms)</b>		Not controlled under WHMIS (Canada)
<b>DSCL (ECC) (Europe) (Pictograms)</b>		Not controlled under USCL (Europe)
<b>Japan</b>	Not Available	
<b>Australia</b>	Not Available	
<b>Additional Information</b>	No additional remark	
<b>HMIS (U.S.A.)</b>	<b>Health Hazard:</b> 1	<b>Reactivity:</b> 0
	<b>Fire Hazard:</b> 0	<b>Personal Protection:</b> A
<b>National Fire Protection Association (U.S.A.)</b>	 <p><b>Hazard Rating:</b> 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Minimal (Insignificant)</p>	
<b>Protective Clothing (Pictograms)</b>		

Sheet *(continued)*

**Section 16 Other Information**

<b>References</b>	SAX, N.I Dangerous Properties of Industrial Materials, Toronto, Van Nostrand Reinold, 60 cd. 1984 Partyis Industrial Hygiene and Toxicology. Manufacturer’s Material Safety Data Sheet.
<b>Glossary</b>	
AGC:	American Conference of Governmental Industrial Hygienists
ASTM:	American Society for Testing and Materials
BODS:	Biological Oxygen Demand in 5 days
CAS:	Chemical Abstract Services
CEPA:	Canadian Environmental Protection Act
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act
CFR:	Code of Federal Regulations
DOT:	Department of Transportation
DSL:	Domestic Substance List (Canada)
HCS:	Hazardous Communication System
HMTS:	Hazardous Material Information System
IARC:	International Agency for Research on Cancer
LD50/LC50:	Lethal Dose/Concentration kill 50 %
LDLo/LCLo:	Lowest Published Lethal Dose/Concentration
NFPA:	National Fire Prevention Association
NIOSH:	National Institute for Occupational Safety & Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety & Health Administration
PEL:	Permissible Exposure Limit (15 minutes)
RCRA:	RESOURCE Conservation and Recovery Act
STEL:	Short Term Exposure Limit (15 minutes)
TDG:	Transportation of Dangerous Goods (Canada)
TLV:	Threshold Limit Value
TWA:	Time Weighted Average
TSCA:	RToxic Substances Control Act
WHMIS:	RWorkplace Hazardous Material Information System
<b>Consideration</b>	No additional Remark
<b>Revision Comments</b>	Annual update. Telephone number changes.
<b>Notice to Reader</b>	The data contained in this MSDS and recommendations presented herein are based upon information considered to be accurate, as of this date. However, LG Chem Europe makes no guarantee or warranty, either expressed or implied, of the completeness of this data and recommendations, and assumes no liability in connection with any use of this information.

**Adhesive**

**1. Products**

LG HI-MACS® joint adhesive

**2. Manufacturer**

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**Tel.: 82 (0)2 3773 7760**

**Fax: 82 (0)2 3773 7972**

**3. Chemical family**

Solid surface adhesive (contains peroxide initiator)

**4. Hazardous ingredient**

Hazardous mixtures of other liquids, solids or gases	GAS	%
Benzoyl peroxide	000094-36-0	UP TO 1
Methyl methacrylate	80-62-6	UP TO 50
Ethylene glycol dimethacrylate	97-90-5	UP TO 2
Dioctylphalate	117-81-7	UP TO 10

**5. Physical data**

Boiling point (°F)	350~450
Vapor pressure (mm Hg) at 25°C	5 mm at 22.2°C
Vapor density	Heavier than air
Evaporation rate	Slow than ester
% volatile volume	22~26 %
Water volume	0 %

**6. Fire and explosion hazard data**

Flammability	None
Explosion hazard	May be not present
Unusual fire & explosion	None
Special fire fighting procedures	None

Wear self - contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Adhesive** *(continued)*

**7. Health hazard data**

Exposure limits: TLV = 5 mg/m<sup>3</sup>.

Effects of overexposure: headache, nausea, nose, throat distress.

**Emergency and first aid procedures**

Eyes: flush with water for 15 minutes, get medical attention.

Skin: wash with soap and water, remove contaminated clothing.

Inhalation: transport person to well ventilated area. Provide with respiratory assistance if necessary.

Ingestion: no known antidote but give milk or water. Try to avoid vomiting if swallowed. Get medical attention.

Primary entry route: skin, eyes, inhalation.

**8. Reactivity data**

Stability	Unstable	
	Stable	0

Incompatibility: oxidizing materials can cause a reaction.

Hazardous decomposition products: none.

Condition to avoid: source of ignition.

Hazardous	May occur	
Polymerization	Will not occur	0

**9. Spill or leak procedures**

Steps to be taken in case material is released or spilled: prevent skin and eye contact. Small spills may be collected with absorbent materials. For large spills, flush acetone.

**10. Special protection information**

Handling and storing: keep storage container closed, avoid source of heat and flammable materials.

**11. Safe handling and use**

Respiratory protection: not normally required.

Ventilation: use in well ventilated areas.

Protective gloves: neoprene gloves recommended.

Eye protection: not normally needed.

Hygienic practices: clean skin with soap and water.

Other protective equipment: none.