



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830
SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1	Product identifier Product Name	M-Bond GA-61 (Part B)
1.2	Relevant identified uses of the substance or mixture and uses advised against Identified Use(s) Uses Advised Against	Adhesives. Anything other than the above.
1.3	Details of the supplier of the safety data sheet Company Identification Telephone Fax E-Mail (competent person)	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom +44 (0) 1256 462131 +44 (0) 1256 471441 mm.uk@vishaypg.com
1.4	Emergency telephone number Emergency Phone No. Languages spoken	(00-1) 703-527-3887 All official European languages.
		CHEMTREC (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1	Classification of the substance or mixture	
2.1.1	Regulation (EC) No. 1272/2008 (CLP)	Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc 1A; H350 STOT RE 2; H373
2.2	Label elements Product Name Contains: Hazard Pictogram(s)	According to Regulation (EC) No. 1272/2008 (CLP) M-Bond GA-61 (Part B) 1,2,4,5-Benzenetetracarboxylic Dianhydride and Quartz (crystalline silica)
		 
	Signal Word(s)	DANGER
	Hazard Statement(s)	H318: Causes serious eye damage. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317: May cause an allergic skin reaction. H350: May cause cancer. H373: May cause damage to organs through prolonged or repeated exposure.
	Precautionary Statement(s)	P260: Do not breathe dust. P280: Wear protective gloves/protective clothing/eye protection/face protection. P302+P350: IF ON SKIN: Gently wash with plenty of soap and water. P310: Immediately call a POISON CENTER/doctor. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

2.3 Other hazards

Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
1,2,4,5-Benzenetetracarboxylic Dianhydride	≤100	89-32-7	201-898-9	Not yet assigned in the supply chain	Eye Dam. 1; H318 Resp. Sens. 1: H334 Skin Sens. 1: H317
Talc*	≤30	14807-96-6	238-877-9	Not yet assigned in the supply chain	Not classified
Quartz (crystalline silica)	1	14808-60-7	238-878-4	Not yet assigned in the supply chain	Carc. 1A; H350 STOT RE 1; H372 STOT SE 3; H335

For full text of H/P Statements see section 16. *Substance with a national exposure limit

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider

Inhalation

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Do not breathe dust. Avoid dust generation. Avoid all contact. Apply artificial respiration if necessary (do not employ mouth-to-mouth method). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Skin Contact

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Eye Contact

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Wash with plenty of water. If irritation (redness, rash, blistering) develops, get medical attention.

Ingestion

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. If vomiting occurs turn patient on side. Do not give milk or alcoholic beverages. IF exposed or concerned: Call a POISON CENTER/doctor.

Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

4.3 Indication of any immediate medical attention and

Treat symptomatically

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special treatment needed

Notes to a physician:

IF INHALED: Due to possible delayed effect of poisoning and for safety reasons, they should be kept under medical observation for at least 48 hours.

IF IN EYES: Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media Suitable Extinguishing Media Unsuitable extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or waterspray. Do not use water jet.
5.2 Special hazards arising from the substance or mixture	Not flammable. May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide.
5.3 Advice for fire-fighters	Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Ensure operatives are trained to minimise exposures. Ensure suitable personal protection during removal of spillages. Eliminate sources of ignition. Shut off leaks if without risk. Avoid all contact. Ensure adequate ventilation. Do not breathe dust. Avoid dust generation.
6.2 Environmental precautions	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.
6.3 Methods and material for containment and cleaning up	Sweep spilled substances into containers if appropriate moisten first to prevent dusting. Recommended: Vacuum spilled material. Avoid dust generation. Collect mechanically and dispose of according to Section 13. Ventilate the area and wash spill site after material pick-up is complete.
6.4 Reference to other sections	See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling	Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Do not breathe dust. Avoid all contact. Wear protective gloves/eye protection. Avoid dust generation. Take precautionary measures against static discharge. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.
7.2 Conditions for safe storage, including any incompatibilities Storage temperature Storage life Incompatible materials	Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, sources of ignition and direct sunlight. Ideal storage temperature is (°C): <50°C Stable under normal conditions. Protect from moisture. Keep away from: Flammable liquid, Reducing agent, Oxidizing agents, Corrosive Substances, Alkalis
7.3 Specific end use(s)	See Section: 1.2.




SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters	
8.1.1 Occupational Exposure Limits	The UK HSE (EH40) recommends the following limits for dusts: 10 mg/m ³ (8hr TWA) total inhalable dust; 5 mg/m ³ (8hr TWA) total respirable dust.

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Talc	14807-96-6	-	1	-	2	WEL, Respirable Aerosol
Quartz (crystalline silica)	14808-60-7	-	0.1	-	-	WEL

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Source: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2	Biological limit value	Not established.
8.1.3	PNECs and DNELs	Not established.
8.2	Exposure controls	
8.2.1	Appropriate engineering controls	Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.
8.2.2	Individual protection measures, such as personal protective equipment (PPE)	General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid all contact. Do not breathe dust. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place. A washing facility/water for eye and skin cleaning purposes should be present.
	Eye/face protection	Use eye protection according to EN 166, designed to protect against dusts.
		
	Skin protection	Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Protective index 6, corresponding > 480 minutes of permeation time according to EN 374. Recommended: Nitrile rubber
		
	Respiratory protection	An approved dust mask should be worn if dust is generated during handling. Recommended: EN149
		
	Thermal hazards	Not applicable
8.2.3	Environmental Exposure Controls	Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	Information on basic physical and chemical properties	
	Appearance	White / Pale brown Powder
	Odour	Odourless
	Odour threshold	Not available.
	pH	Not established.
	Melting point/freezing point	Not established.
	Initial boiling point and boiling range	>400°C (Mixture)
	Flash point	>93°C (Mixture)
	Evaporation rate	Not established.
	Flammability (solid, gas)	Not established.
	Upper/lower flammability or explosive limits	Not available.
	Vapour pressure	Not established.
	Vapour density	Not established.
	Relative density	1.81 g/cm ³ (H ₂ O = 1) (Mixture)
	Solubility(ies)	Slightly soluble in: Water
	Partition coefficient: n-octanol/water	Not available.
	Auto-ignition temperature	Not available.
	Decomposition Temperature	Not available.
	Viscosity	Not available.

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Explosive properties	Not available.
Oxidising properties	Not oxidising.
9.2 Other information	None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Hazardous polymerisation will not occur.
10.4 Conditions to avoid	Do not store and transport with oxidizers, (acids) (and bases), etc.
10.5 Incompatible materials	Flammable liquid, Reducing agent, Oxidizing agents, Corrosive Substances, Alkalis and Acids.
10.6 Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity - Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Acute toxicity - Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.
Acute toxicity - Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Skin corrosion/irritation	Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Mixture: Eye Dam. 1; Causes serious eye damage.
1,2,4,5-Benzenetetracarboxylic Dianhydride:	Eye Dam. 1; H318 Harmonised Classification Weight of evidence approach: Causes serious eye damage. (OECD 405)
Respiratory sensitization	Mixture: Resp. Sens. 1; May cause allergy or asthma symptoms or breathing difficulties if inhaled.
1,2,4,5-Benzenetetracarboxylic Dianhydride:	Resp. Sens. 1; H334 Harmonised Classification Capable of causing respiratory sensitization. (Unnamed, 1988)
Skin sensitization	Mixture: Skin Sens. 1; May cause an allergic skin reaction.
1,2,4,5-Benzenetetracarboxylic Dianhydride:	Skin Sens. 1; H317 Harmonised Classification Skin sensitization (mouse) - Positive (OECD 429)
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Mixture: Carc. 1A; May cause cancer.
Quartz (Silica, respirable Crystalline):	IARC Classification: Group 1. NTP Report on Carcinogens Suspected of causing cancer by inhalation. (Checkoway et al., 1993)(Rice et al., 2001)(Rafnsson V et al, 1997) Route of Exposure: Inhalation into Lungs Causes irritation. Inflammation. Leading to Silicosis and eventually tumour formation. (SIAM 32, 19-21 April 2011)
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
STOT - single exposure	Based upon the available data, the classification criteria are not met.
Quartz (Silica, respirable Crystalline):	Irritating to respiratory system. (IARC (1997) and SITTIG (4 th , 2002))
STOT - repeated exposure	Mixture: STOT RE 2; May cause damage to organs through prolonged or repeated exposure.
Quartz (Silica, respirable Crystalline):	Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. (Ziskind et al., 1976; IARC, 1987)
Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2 Other information	None known.

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SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
12.2 Persistence and degradability	No data for the mixture as a whole.
1,2,4,5-Benzenetetracarboxylic Dianhydride:	Readily biodegradable (according to OECD criteria).
Talc:	Not applicable for inorganic substances
Quartz (Silica, respirable Crystalline):	No data
12.3 Bioaccumulative potential	No data for the mixture as a whole.
1,2,4,5-Benzenetetracarboxylic Dianhydride:	The substance has low potential for bioaccumulation.
Talc:	The substance has no potential for bioaccumulation.
Quartz (Silica, respirable Crystalline):	No data
12.4 Mobility in soil	No data for the mixture as a whole.
1,2,4,5-Benzenetetracarboxylic Dianhydride:	The substance is predicted to have moderate mobility in soil. Slightly soluble in: Water
Talc:	The substance is predicted to have low mobility in soil. Insoluble in water.
Quartz (Silica, respirable Crystalline):	No data
12.5 Results of PBT and VPVB assessment	Not classified as PBT or vPvB.
12.6 Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Dispose of this material and its container as hazardous waste. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2 Additional Information	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	Not classified	Not classified	Not classified
14.2 UN proper shipping name	Not classified	Not classified	Not classified
14.3 Transport hazard class(es)	Not classified	Not classified	Not classified
14.4 Packing group	Not classified	Not classified	Not classified
14.5 Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable		

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1 EU regulations	
Authorisations and/or Restrictions On Use	Not restricted
15.1.2 National regulations	None known
15.2 Chemical Safety Assessment	A chemical safety assessment is not required under REACH.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation 2015/830 format, all sections have been updated to include new information. Please review SDS with care.

References:

Existing Safety Data Sheet (SDS), Harmonised Classification and Existing ECHA registration(s) for 1,2,4,5-Benzenetetracarboxylic Dianhydride (CAS No. 89-32-7). Existing ECHA registration(s) for Talc (CAS No. 14807-96-6)/

SAFETY DATA SHEET



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Literature References:

1. Checkoway, H., Heyer, N.J., Demers, P.A. & Breslow, N.E. (1993) Mortality among workers in the diatomaceous earth industry. Br. 1. ind. Med., 50, 586-597
2. Rice, F.L., Park, R., Stayner, L., Smith, R., Gilbert, S., and Checkoway, H. 2001. Crystalline silica exposure and lung cancer mortality in diatomaceous earth industry workers: a quantitative risk assessment. Occup Environ Med, 58(1):38-45.
3. Rafnsson V & Gunnarsdottir H, 1997, Lung cancer incidence among an Icelandic cohort exposed to diatomaceous earth and cristobalite., Scand J Work Environ Health, 23: 187 – 192. PMID:9243728.
4. INITIAL TARGETED ASSESSMENT PROFILE (Human Health), SIAM 32, 19-21 April 2011, OECD
5. Silica, Some Silicates, Coal Dust and para-Aramid Fibrils, IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS, Volume 68 (1997)
6. 13th Report on Carcinogens, National Toxicology Program, 2014
7. Ziskind M, Jones RN, Weill H, 1976, Silicosis. American review of respiratory disease, 113:643-665.
8. Richard P Pohanish; Marshall Sittig, 2002, Sittig's handbook of toxic and hazardous chemicals and carcinogens, Norwich, N.Y., U.S.A. : Noyes Publications, ©2002.

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Eye Dam. 1; H318	Threshold Calculation
Resp. Sens. 1; H334	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Carc. 1A; H350	Threshold Calculation
STOT RE 2; H373	Threshold Calculation

LEGEND

LTEL: Long Term Exposure Limit

DNEL: Derived No Effect Level

PBT: PBT: Persistent, Bioaccumulative and Toxic

STEL: Short Term Exposure Limit

PNEC: Predicted No Effect Concentration

vPvB: very Persistent and very Bioaccumulative

Hazard classification / Classification code:

Skin Sens. 1; Skin Sensitisation, Category 1

Eye Dam. 1; Eye damage, category 1

Resp. Sens. 1; Respiratory sensitization, Category 1

Carc. 1A; Carcinogenicity, Category 1A

STOT RE 1; Specific target organ toxicity — repeated exposure, Category 1

STOT RE 2; Specific target organ toxicity — repeated exposure, Category 2

Hazard Statement(s)

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H350: May cause cancer.

H372: Causes damage to organs through prolonged or repeated exposure.

H373: May cause damage to organs through prolonged or repeated exposure.

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