

## SAFETY DATA SHEET

### M-Bond 610

#### Vishay Measurements Group GmbH

Version No: 2.5

Safety Data Sheet - Authored according to GB/T 16483(2008), GB/T 17519 (2013), and GB30000.1 (2024)

Chemwatch Hazard Alert Code: 4

Initial Date: 11/30/2025

Revision Date: 12/01/2025

Print Date: 12/04/2025

S.GHS.CHN.EN

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

#### Product Identifier

Product name	M-Bond 610
Chemical Name	Not Applicable
Chemical English Name	Not Applicable
Synonyms	Not Available
Proper shipping name	ADHESIVES containing flammable liquid
Chemical formula	Not Applicable
Other means of identification	UFI: UFI: Not Available

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

Relevant identified uses	Use according to manufacturer's directions.
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#### Details of the manufacturer or importer of the safety data sheet

Registered company name	Vishay Measurements Group GmbH
Address	Tatschenweg 1 Heilbronn 74078 Germany
Telephone	+49 (0) 7131 39099-0
Fax	Not Available
Website	<a href="http://www.VPGSensors.com">www.VPGSensors.com</a>
Email	mm.de@vpgsensors.com

#### Emergency telephone number

Association / Organisation	Chemtrec (24/7/365)
Emergency telephone number(s)	(00-1) 703-527-3887 (Worldwide)
Other emergency telephone number(s)	Not Available

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

##### Summary of Hazard in an Emergency Situation

Liquid.  
Mixes with water.Highly flammable.  
May form explosive peroxides.  
Irritating to eyes.  
Irritating to respiratory system.  
Irritating to skin.  
May cause SENSITISATION by skin contact.  
Limited evidence of a carcinogenic effect.  
Use appropriate container to avoid environmental contamination.  
Avoid release to the environment. Refer to special instructions/Safety data sheets.

Classification <sup>[1]</sup>	Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Carcinogenicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2
Legend:	1. Classified by Chemwatch; 2. China Catalogue of Hazardous Chemicals; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

#### Label elements

Hazard pictogram(s)	   
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**M-Bond 610****Signal word** **Danger****Hazard statement(s)**

<b>H225</b>	Highly flammable liquid and vapour.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H319</b>	Causes serious eye irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H351</b>	Suspected of causing cancer.
<b>H411</b>	Toxic to aquatic life with long lasting effects.

**Precautionary statement(s) Prevention**

<b>P201</b>	Obtain special instructions before use.
<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P233</b>	Keep container tightly closed.
<b>P271</b>	Use in a well-ventilated area.
<b>P280</b>	Wear protective gloves, protective clothing, eye protection and face protection.
<b>P240</b>	Ground/bond container and receiving equipment.
<b>P241</b>	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
<b>P242</b>	Use only non-sparking tools.
<b>P243</b>	Take precautionary measures against static discharge.
<b>P261</b>	Avoid breathing mist/vapours/spray.
<b>P273</b>	Avoid release to the environment.
<b>P202</b>	Do not handle until all safety precautions have been read and understood.
<b>P264</b>	Wash all exposed external body areas thoroughly after handling.
<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.

**Precautionary statement(s) Response**

<b>P308+P313</b>	IF exposed or concerned: Get medical advice/ attention.
<b>P321</b>	Specific treatment (see advice on this label).
<b>P370+P378</b>	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P312</b>	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P337+P313</b>	If eye irritation persists: Get medical advice/attention.
<b>P391</b>	Collect spillage.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
<b>P332+P313</b>	If skin irritation occurs: Get medical advice/attention.
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.

**Precautionary statement(s) Storage**

<b>P403+P235</b>	Store in a well-ventilated place. Keep cool.
<b>P405</b>	Store locked up.
<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.

**Precautionary statement(s) Disposal**

<b>P501</b>	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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**Physical and Chemical Hazard**

Liquid.  
Mixes with water. Highly flammable.  
May form explosive peroxides.  
HIGHLY FLAMMABLE.  
Vapours/gas heavier than air.  
Toxic smoke/fumes in a fire.  
In case of fire and/or explosion, DO NOT BREATHE FUMES.

**Health Hazards**

<b>Inhaled</b>	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>In animal testing, exposure to aerosols of reactive diluents (especially o-cresol glycidyl ether, CAS RN:2210-79-9) has been reported to affect the adrenal gland, central nervous system, kidney, liver, ovaries, spleen, testes, thymus and respiratory tract.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Overexposure to tetrahydrofuran by inhalation may result in irritation of the mucous membrane, and may produce coughing, chest pains, nausea, dizziness, headache and stupor. High concentrations affect the central nervous system.</p>
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	Acute exposure of humans to high concentrations of methyl ethyl ketone produces irritation to the eyes, nose and throat. Acute exposure by inhalation also causes nervous system depression, headache, and nausea. High vapour levels are easily detected due to odour, however odour fatigue may occur, with loss of warning of exposure.
Ingestion	<p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p> <p>Reactive diluents exhibit a range of ingestion hazards. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. However, swallowing larger amounts may cause injury.</p> <p>High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.</p> <p>Ingestion of tetrahydrofuran may not, in itself, produce internal injury, however, contaminating levels of furan, present in certain grades of commercial product, may produce liver and kidney injury exacerbated by the intake of alcoholic beverages.</p> <p>Accidental ingestion of the material may be damaging to the health of the individual.</p>
Skin Contact	<p>The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>In humans exposed to methyl ethyl ketone, skin inflammation has been reported. Animal testing has shown methyl ethyl ketone to have high acute toxicity from skin exposure.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Skin contact with reactive diluents may cause slight to moderate irritation with local redness. Repeated or prolonged skin contact may cause burns.</p> <p>Skin contact with tetrahydrofuran may produce smarting and reddening of the skin and after prolonged exposures; skin inflammation may result because the substance removes skin oils (has a degreasing effect).</p> <p>The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p>
Eye	<p>Eye contact with reactive diluents may cause slight to severe irritation with the possibility of chemical burns or moderate to severe damage to the cornea.</p> <p>There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation.</p> <p>Severe inflammation may be expected with pain.</p> <p>Application of a 20% solution of tetrahydrofuran in water in animals to the eye, produced irritation.</p>
Chronic	<p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.</p> <p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.</p> <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.</p> <p>This product contains a polymer with reactive functional groups (aldehydes and phenolics) regarded as being of moderate concern.</p> <p>Aldehydes are reactive, soluble and are highly irritating.</p> <p>Glycidyl ethers can cause genetic damage and cancer.</p> <p>This material contains a substantial amount of polymer considered to be of low concern. These are classified under having MWs of between 1000 to 10000 with less than 25% of molecules with MWs under 1000 and less than 10% under 500; or having a molecular weight average of over 10000.</p> <p>For some reactive diluents, prolonged or repeated skin contact may result in absorption of potentially harmful amounts or allergic skin reactions.</p> <p>Exposure to some reactive diluents (notably, neopentylglycol diglycidyl ether, CAS RN: 17557-23-2) has caused cancer in some animal testing.</p> <p>Cyclic ethers can cause cancers, especially of the liver.</p> <p>Animal testing shows that methyl ethyl ketone may have slight effects on the nervous system, liver, kidney and respiratory system; there may also be developmental effects and an increase in birth defects. However, there is limited information available on the long-term effects of methyl ethyl ketone in humans, and no information is available on whether it causes developmental or reproductive toxicity or cancer. It is generally considered to have low toxicity, but it is often used in combination with other solvents, and the toxic effects of the mixture may be greater than with either solvent alone. Combinations of n-hexane or methyl n-butyl ketone with methyl ethyl ketone may increase the rate of peripheral neuropathy, a progressive disorder of the nerves of the extremities. Combinations with chloroform also show increase in toxicity.</p> <p>Bisphenol F, bisphenol A, fluorine-containing bisphenol A (bisphenol AF) and other diphenylalkanes were found to have oestrogen-like effects. Bisphenol F is present in the environment and as a contaminant of food, so humans may therefore be exposed to bisphenol. Testing shows bisphenol F has genetic toxicity as well as the ability to disrupt hormonal balance.</p> <p>Bisphenol A may have effects similar to female sex hormones and when administered to pregnant women, may damage the foetus. It may also damage male reproductive organs and sperm.</p> <p>Repeated exposure to tetrahydrofuran (THF) and related compounds has been associated with liver inflammation and fatty degeneration of the liver. Animal testing suggests that this group of compounds can cause liver damage, irritation of the skin and airway, metabolic imbalance, gynaecological disturbance, damage to the adrenal glands and may increase the rate of cancer.</p>

Environmental Hazards

See Section 12

Other hazards

Inhalation, skin contact and/or ingestion may produce health damage\*.  
Cumulative effects may result following exposure\*.  
May be harmful to the foetus/ embryo\*.  
\*LIMITED EVIDENCE

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
109-99-9	55-65	<u>tetrahydrofuran</u>
28064-14-4	25-32	<u>bisphenol F diglycidyl ether copolymer</u>

CAS No	%[weight]	Name
78-93-3	5-10	<u>methyl ethyl ketone</u>
Legend:	1. Classified by Chemwatch; 2. China Catalogue of Hazardous Chemicals; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"><li>▶ Wash out immediately with fresh running water.</li><li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li><li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li><li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"><li>▶ Immediately remove all contaminated clothing, including footwear.</li><li>▶ Flush skin and hair with running water (and soap if available).</li><li>▶ Seek medical attention in event of irritation.</li></ul>
Inhalation	<ul style="list-style-type: none"><li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li><li>▶ Lay patient down. Keep warm and rested.</li><li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li><li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li><li>▶ Transport to hospital, or doctor, without delay.</li></ul>
Ingestion	<ul style="list-style-type: none"><li>▶ Immediately give a glass of water.</li><li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li></ul>

Advise for rescue team (PPE requirement for rescue personnel)

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Advice for firefighters

Fire Fighting	
Fire/Explosion Hazard	<ul style="list-style-type: none"><li>▶ Liquid and vapour are highly flammable.</li><li>▶ Severe fire hazard when exposed to heat, flame and/or oxidisers.</li><li>▶ Vapour may travel a considerable distance to source of ignition.</li><li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li><li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li></ul> <p>Combustion products include:</p> <ul style="list-style-type: none"><li>, carbon dioxide (CO2)</li><li>, aldehydes</li><li>, other pyrolysis products typical of burning organic material.</li></ul> <p><b>WARNING:</b> Long standing in contact with air and light may result in the formation of potentially explosive peroxides.</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Measures for Preventing Secondary Contamination

Refer to section above

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"><li>▶ Remove all ignition sources.</li><li>▶ Clean up all spills immediately.</li><li>▶ Avoid breathing vapours and contact with skin and eyes.</li><li>▶ Control personal contact with the substance, by using protective equipment.</li><li>▶ Contain and absorb small quantities with vermiculite or other absorbent material.</li><li>▶ Wipe up.</li><li>▶ Collect residues in a flammable waste container.</li></ul>
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## M-Bond 610

	<ul style="list-style-type: none"> <li>▶ In the event of a spill of a reactive diluent, the focus is on containing the spill to prevent contamination of soil and surface or ground water.</li> <li>▶ If irritating vapors are present, an approved air-purifying respirator with organic vapor canister is recommended for cleaning up spills and leaks.</li> <li>▶ For small spills, reactive diluents should be absorbed with sand.</li> </ul>
Major Spills	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Neutralise/decontaminate residue (see Section 13 for specific agent).</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul> <p>Industrial spills or releases of reactive diluents are infrequent and generally contained. If a large spill does occur, the material should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements.</p> <p>An approved air-purifying respirator with organic-vapor canister is recommended for emergency work.</p>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> </ul> <p>The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example.</p> <p>Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.</p> <ul style="list-style-type: none"> <li>▶ A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date.</li> <li>▶ The person or laboratory receiving the chemical should record a receipt date on the bottle. The individual opening the container should add an opening date.</li> <li>▶ Unopened containers received from the supplier should be safe to store for 18 months.</li> <li>▶ Opened containers should not be stored for more than 12 months.</li> <li>▶ Avoid skin contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ Avoid smoking, naked lights, heat or ignition sources.</li> <li>▶ When handling, <b>DO NOT eat, drink or smoke.</b></li> <li>▶ Vapour may ignite on pumping or pouring due to static electricity.</li> <li>▶ <b>DO NOT use plastic buckets.</b></li> <li>▶ Earth and secure metal containers when dispensing or pouring product.</li> <li>▶ Use spark-free tools when handling.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul>
Other information	<ul style="list-style-type: none"> <li>▶ Store in original containers in approved flame-proof area.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ <b>DO NOT store in pits, depression, basement or areas where vapours may be trapped.</b></li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store away from incompatible materials in a cool, dry well ventilated area.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.</li> <li>▶ Keep in a cool place. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.</li> <li>▶ For containers, or container linings use mild steel, stainless steel. Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FMK), which have been specifically tested for compatibility with this product.</li> <li>▶ For container linings, use amine-adduct cured epoxy paint.</li> <li>▶ For seals and gaskets use: graphite, PTFE, Viton A, Viton B.</li> <li>▶ Unsuitable material: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene. However, some may be suitable for glove materials.</li> <li>▶ Do not cut, drill, grind, weld or perform similar operations on or near containers. Containers, even those that have been emptied, can contain explosive vapours.</li> </ul>

### Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> <li>▶ Packing as supplied by manufacturer.</li> <li>▶ Plastic containers may only be used if approved for flammable liquid.</li> <li>▶ Check that containers are clearly labelled and free from leaks.</li> <li>▶ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> <li>▶ For materials with a viscosity of at least 2680 cSt. (23 deg. C)</li> </ul>
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