

M-Bond 450 Part A

Vishay Measurements Group, Inc.

Version No: 6.0

Safety Data Sheet according to WHMIS 2023 requirements

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S.GHS.CAN.EN

SECTION 1 Identification

Product Identifier

| | |
|-------------------------------|---------------------------------------|
| Product name | M-Bond 450 Part A |
| Chemical Name | Not Applicable |
| Synonyms | Not Available |
| Proper shipping name | ADHESIVES containing flammable liquid |
| Chemical formula | Not Applicable |
| Other means of identification | UFI: UFI: Mixture |

Recommended use of the chemical and restrictions on use

| | |
|--------------------------|-----------|
| Relevant identified uses | Adhesive. |
|--------------------------|-----------|

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

| | |
|-------------------------|--|
| Registered company name | Vishay Measurements Group, Inc. |
| Address | Post Office Box 27777 Raleigh, NC 27611 United States |
| Telephone | (919) 365-3800 |
| Fax | 919-365-3945 |
| Website | www.VPGSensors.com |
| Email | mm.usa@vpgsensors.com |

Emergency phone number

| | |
|-------------------------------------|---------------------|
| Association / Organisation | Chemtrec (24/7/365) |
| Emergency telephone number(s) | 1-800-424-9300 |
| Other emergency telephone number(s) | Not Available |

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health, Red = Fire, Yellow = Reactivity and White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols



| | |
|----------------|---|
| Classification | Flammable Liquids Category 3, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Carcinogenicity Category 1B |
|----------------|---|

Label elements

| | |
|---------------------|--|
| Hazard pictogram(s) | |
|---------------------|--|

| | |
|-------------|---------------|
| Signal word | Danger |
|-------------|---------------|

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Hazard statement(s)

| | |
|------|--------------------------------------|
| H226 | Flammable liquid and vapour. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H350 | May cause cancer. |

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

| | |
|------|--|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P243 | Take action to prevent static discharges. |
| P261 | Avoid breathing mist/vapours/spray. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P264 | Wash all exposed external body areas thoroughly after handling. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |
| P370+P378 | In case of fire: Use alcohol resistant foam or normal protein foam to extinguish. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |

Precautionary statement(s) Storage

| | |
|-----------|--|
| P403+P235 | Store in a well-ventilated place. Keep cool. |
|-----------|--|

Precautionary statement(s) Disposal

| | |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|----------|-----------|------------------------------|
| 78-93-3 | 1-10 | <u>methyl ethyl ketone</u> |
| 122-60-1 | <=0.1 | <u>phenyl glycidyl ether</u> |

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"> ▶ Wash out immediately with fresh running water. ▶ 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. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water. ▶ Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. |
| Ingestion | <ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. |

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ Foam.

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- ▶ 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 |
|-----------------------------|--|

Special protective equipment and precautions for fire-fighters

| | |
|------------------------------|---|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ If safe, switch off electrical equipment until vapour fire hazard removed. ▶ Use water delivered as a fine spray to control fire and cool adjacent area. ▶ Avoid spraying water onto liquid pools. ▶ DO NOT approach containers suspected to be hot. ▶ Cool fire exposed containers with water spray from a protected location. ▶ If safe to do so, remove containers from path of fire. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Liquid and vapour are flammable. ▶ Moderate fire hazard when exposed to heat or flame. ▶ Vapour forms an explosive mixture with air. ▶ Moderate explosion hazard when exposed to heat or flame. ▶ Vapour may travel a considerable distance to source of ignition. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. ▶ On combustion, may emit toxic fumes of carbon monoxide (CO). <p>Combustion products include:</p> <ul style="list-style-type: none"> ▶ carbon monoxide (CO) ▶ carbon dioxide (CO₂) ▶ other pyrolysis products typical of burning organic material. |

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | <ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb small quantities with vermiculite or other absorbent material. ▶ Wipe up. ▶ Collect residues in a flammable waste container. |
| Major Spills | <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Consider evacuation (or protect in place). ▶ No smoking, naked lights or ignition sources. ▶ Increase ventilation. ▶ Stop leak if safe to do so. ▶ Water spray or fog may be used to disperse /absorb vapour. ▶ Contain spill with sand, earth or vermiculite. ▶ Use only spark-free shovels and explosion proof equipment. ▶ Collect recoverable product into labelled containers for recycling. ▶ Absorb remaining product with sand, earth or vermiculite. ▶ Collect solid residues and seal in labelled drums for disposal. ▶ Wash area and prevent runoff into drains. ▶ If contamination of drains or waterways occurs, advise emergency services. |

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

SECTION 7 Handling and storage

Precautions for safe handling

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|----------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▶ Ensure adequate ventilation. ▶ Avoid breathing mist/vapours/spray. ▶ Avoid contact with skin, eyes or clothing. ▶ Use personal protective equipment as required. ▶ See Section: 8. ▶ Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. ▶ No smoking. ▶ Take precautionary measures against static discharge. ▶ Do not use sparking tools. ▶ Do not spray on an open flame or other ignition source. ▶ Do not eat, drink or smoke when using this product. ▶ Wash hands before breaks and after work. ▶ Ground/bond container and receiving equipment. |
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Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Packing as supplied by manufacturer. ▶ Plastic containers may only be used if approved for flammable liquid. ▶ Check that containers are clearly labelled and free from leaks. ▶ 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. ▶ For materials with a viscosity of at least 2680 cSt. (23 deg. C) ▶ For manufactured product having a viscosity of at least 250 cSt. (23 deg. C) ▶ Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used. ▶ Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages ▶ In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic. |
| Storage incompatibility | <p>Keep away from: Strong oxidising agents, Strong acids and alkali.</p> <p>Methyl ethyl ketone:</p> <ul style="list-style-type: none"> ▶ reacts violently with strong oxidisers, aldehydes, nitric acid, perchloric acid, potassium tert-butoxide, oleum ▶ is incompatible with inorganic acids, aliphatic amines, ammonia, caustics, isocyanates, pyridines, chlorosulfonic acid ▶ forms unstable peroxides in storage, or on contact with propanol or hydrogen peroxide ▶ attacks some plastics ▶ may generate electrostatic charges, due to low conductivity, on flow or agitation |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---------------------|---|---------------------|---------------------|---------------|---|
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances | methyl ethyl ketone | Methyl ethyl ketone (MEK), see 2-Butanone | 200 ppm / 590 mg/m3 | 740 mg/m3 / 250 ppm | Not Available | Not Available |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances | methyl ethyl ketone | 2-Butanone | 200 ppm / 590 mg/m3 | 740 mg/m3 / 250 ppm | Not Available | Not Available |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | methyl ethyl ketone | Methyl ethyl ketone (MEK) | 200 ppm | 300 ppm | Not Available | Not Available |
| Canada - Manitoba Occupational Exposure Limits | methyl ethyl ketone | Not Available | 200 ppm | 300 ppm | Not Available | TLV® Basis: URT irr; CNS & PNS impair; BEI |
| Canada - Prince Edward Island Occupational Exposure Limits | methyl ethyl ketone | Methyl ethyl ketone | 75 ppm | 150 ppm | Not Available | Skin; BEI |
| Canada - British Columbia Occupational Exposure Limits | methyl ethyl ketone | Methyl ethyl ketone (MEK) | 50 ppm | 100 ppm | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits | methyl ethyl ketone | 2-Butanone (Methyl ethyl ketone) | 200 ppm / 590 mg/m3 | 885 mg/m3 / 300 ppm | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits | methyl ethyl ketone | Methyl ethyl ketone (MEK; 2-Butanone) | 200 ppm / 590 mg/m3 | 885 mg/m3 / 300 ppm | Not Available | Not Available |
| Canada - Northwest Territories Occupational Exposure Limits | methyl ethyl ketone | Methyl ethyl ketone (MEK) | 200 ppm | 300 ppm | Not Available | Not Available |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants | methyl ethyl ketone | Methyl ethyl ketone (MEK) | 50 ppm / 150 mg/m3 | 300 mg/m3 / 100 ppm | Not Available | Not Available |
| Canada - Nova Scotia Occupational Exposure Limits Canada | methyl ethyl ketone | Methyl ethyl ketone [MEK] | 200 ppm | 300 ppm | Not Available | TLV Basis: upper respiratory tract irritation; central & peripheral nervous systems impairment. BEI |
| Canada - British Columbia Occupational Exposure Limits (French Canadian) | methyl ethyl ketone | Méthyléthylcétone (MEK) | 50 ppm | 100 ppm | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits (French Canadian) | methyl ethyl ketone | 2-butanone (méthyléthylcétone) | 200 ppm / 590 mg/m3 | 885 mg/m3 / 300 ppm | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits (French Canadian) | methyl ethyl ketone | Méthyl éthyl cétone (MEK; 2-butanone) | 200 ppm / 590 mg/m3 | 885 mg/m3 / 300 ppm | Not Available | Not Available |
| Canada - Manitoba Occupational Exposure Limits (French Canadian) | methyl ethyl ketone | Cétone méthyléthyl (MEK) | 200 ppm | 300 ppm | Not Available | Base TLV® : irritation des voies respiratoires supérieures ; atteinte du SNC et du SNP ; BEI |
| Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian) | methyl ethyl ketone | Méthyléthylcétone [MEK] | 200 ppm | 300 ppm | Not Available | Base TLV® : irritation des voies respiratoires supérieures ; atteinte des systèmes nerveux central et périphérique. BEI |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian) | methyl ethyl ketone | Méthyl éthyl cétone (MEK) | 200 ppm | 300 ppm | Not Available | Not Available |


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| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|-----------------------|--|---------------------|---------------------|---------------|---|
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian) | methyl ethyl ketone | 2-Butanone | 200 ppm / 590 mg/m3 | 740 mg/m3 / 250 ppm | Not Available | Not Available |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian) | methyl ethyl ketone | Méthyléthylcétone (MEK), voir 2-butanone | 200 ppm / 590 mg/m3 | 740 mg/m3 / 250 ppm | Not Available | Not Available |
| Canada - Prince Edward Island Occupational Exposure Limits (French Canadian) | methyl ethyl ketone | Cétone méthyléthyl | 75 ppm | 150 ppm | Not Available | Peau; BEI |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances | phenyl glycidyl ether | Phenyl glycidyl ether (PGE)± | 10 ppm / 60 mg/m3 | 90 mg/m3 / 15 ppm | Not Available | Not Available |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | phenyl glycidyl ether | Phenyl glycidyl ether (PGE) | 0.1 ppm | 0.3 ppm | Not Available | Skin, SEN, T20 |
| Canada - Manitoba Occupational Exposure Limits | phenyl glycidyl ether | Not Available | 0.1 ppm | Not Available | Not Available | TLV® Basis: Testicular dam |
| Canada - Prince Edward Island Occupational Exposure Limits | phenyl glycidyl ether | Phenyl glycidyl ether | 0.1 ppm | Not Available | Not Available | Skin; DSEN; A3 |
| Canada - British Columbia Occupational Exposure Limits | phenyl glycidyl ether | Phenyl glycidyl ether (PGE) | 0.1 ppm | Not Available | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits | phenyl glycidyl ether | Phenyl glycidyl ether (PGE) | 0.1 ppm / 0.6 mg/m3 | Not Available | Not Available | 1 - substance may be readily absorbed through intact skin |
| Canada - Northwest Territories Occupational Exposure Limits | phenyl glycidyl ether | Phenyl glycidyl ether (PGE) | 0.1 ppm | 0.3 ppm | Not Available | Skin, SEN, Schedule R |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants | phenyl glycidyl ether | Phenyl glycidyl ether (PGE) | 0.1 ppm | Not Available | Not Available | Pc: SKIN (percutaneous): Exposure is by contact with vapours or, of probable greater significance, by direct skin contact with the substance. The cutaneous route includes mucous membranes and the eyes. S(D): a substance that, through skin contact, shows specific signs of sensitization on the skin C3: carcinogenic effect detected in animals |
| Canada - Nova Scotia Occupational Exposure Limits Canada | phenyl glycidyl ether | Phenyl glycidyl ether [PGE] | 0.1 ppm | Not Available | Not Available | TLV Basis: testicular damage |
| Canada - British Columbia Occupational Exposure Limits (French Canadian) | phenyl glycidyl ether | Glycidyle phénylique (PGE) | 0.1 ppm | Not Available | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits (French Canadian) | phenyl glycidyl ether | Éther glycidylique de phényle (PGE) | 0.1 ppm / 0.6 mg/m3 | Not Available | Not Available | 1 - La substance peut être facilement absorbée à travers la peau intacte |
| Canada - Manitoba Occupational Exposure Limits (French Canadian) | phenyl glycidyl ether | Éther glycidylique de phényle | 0.1 ppm | Not Available | Not Available | Base TLV® : atteinte testiculaire |
| Canada - Nova Scotia Occupational Exposure Limits Canada (French Canadian) | phenyl glycidyl ether | Éther glycidylique de phényle [PGE] | 0.1 ppm | Not Available | Not Available | Base TLV® : atteinte testiculaire |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits (French Canadian) | phenyl glycidyl ether | Éther glycidyl phénylique (PGE) | 0.1 ppm | 0.3 ppm | Not Available | Peau, SEN, T20 |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances (French Canadian) | phenyl glycidyl ether | Éther phénylglycidylique (PGE)± | 10 ppm / 60 mg/m3 | 90 mg/m3 / 15 ppm | Not Available | Not Available |
| Canada - Prince Edward Island Occupational Exposure Limits (French Canadian) | phenyl glycidyl ether | Éther glycidylique phénylique | 0.1 ppm | Not Available | Not Available | Peau; DSEN; A3 |

Exposure controls

| | |
|---|--|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <ul style="list-style-type: none"> ▶ Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area. ▶ Work should be undertaken in an isolated system such as a "glove-box" . Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system. |
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| | <ul style="list-style-type: none"> ▶ Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within. ▶ Open-vessel systems are prohibited. ▶ Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. ▶ Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system. ▶ For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. ▶ Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas). ▶ Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air. ▶ Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed. |
| <p style="text-align: center;">Individual protection measures, such as personal protective equipment</p> |  |
| <p style="text-align: center;">Eye and face protection</p> | <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]. |
| <p style="text-align: center;">Skin protection</p> | <p>See Hand protection below</p> |
| <p style="text-align: center;">Hands/feet protection</p> | <ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> · frequency and duration of contact, · chemical resistance of glove material, · glove thickness and · dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> · When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. · Contaminated gloves should be replaced. <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> · Excellent when breakthrough time > 480 min · Good when breakthrough time > 20 min · Fair when breakthrough time < 20 min · Poor when glove material degrades <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. · Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> |
| <p style="text-align: center;">Body protection</p> | <p>See Other protection below</p> |
| <p style="text-align: center;">Other protection</p> | <ul style="list-style-type: none"> ▶ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] ▶ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] ▶ Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. ▶ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. ▶ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. |

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- ▶ Overalls.
- ▶ PVC Apron.
- ▶ PVC protective suit may be required if exposure severe.
- ▶ Eyewash unit.
- ▶ Ensure there is ready access to a safety shower.
- ▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- ▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- ▶ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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| Material | CPI |
|------------------|-----|
| BUTYL | A |
| PE/EVAL/PE | A |
| TEFLON | A |
| BUTYL/NEOPRENE | B |
| PVA | B |
| HYPALON | C |
| NATURAL RUBBER | C |
| NATURAL+NEOPRENE | C |
| NEOPRENE | C |
| NEOPRENE/NATURAL | C |
| NITRILE | C |
| NITRILE+PVC | C |
| PVC | C |
| SARANEX-23 | C |
| VITON/NEOPRENE | C |

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Ansell Glove Selection

| Glove — In order of recommendation |
|------------------------------------|
| AlphaTec® 53-001 |
| AlphaTec® 58-005 |
| MICROFLEX® LifeStar EC™ 93-868 |
| MICROFLEX® MidKnight® XTRA 93-862 |
| AlphaTec® 38-612 |
| AlphaTec® Solvex® 37-175 |
| BioClean™ Emerald BENS |
| BioClean™ Fusion (Sterile) S-BFAP |
| BioClean™ N-Plus BNPS |
| BioClean™ Ultimate BUPS |

The suggested gloves for use should be confirmed with the glove supplier.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 10 x ES | A-AUS P2 | - | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES | - | A-AUS / Class 1 P2 | - |
| up to 100 x ES | - | A-2 P2 | A-PAPR-2 P2 ^ |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

| | | | |
|-------------------|---------------|---|---------------|
| Appearance/Colour | Not Available | | |
| Physical state | Liquid | Relative density (Water = 1) | Not Available |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |

M-Bond 450 Part A

| | | | |
|---|---------------|--|---------------------|
| pH (as supplied) | Not Available | Decomposition temperature (°C) | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | Not Available | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Flammable. | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | 547 in total system |
| Heat of Combustion (kJ/g) | Not Available | Ignition Distance (cm) | Not Available |
| Flame Height (cm) | Not Available | Flame Duration (s) | Not Available |
| Enclosed Space Ignition Time Equivalent (s/m ³) | Not Available | Enclosed Space Ignition Deflagration Density (g/m ³) | Not Available |
| Particle Characteristics | Not Available | | |

SECTION 10 Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 Toxicological information

Information on toxicological effects

| | |
|--------------------------------------|---|
| a) Acute Toxicity | Based on available data, the classification criteria are not met. |
| b) Skin Irritation/Corrosion | Based on available data, the classification criteria are not met. |
| c) Serious Eye Damage/Irritation | There is sufficient evidence to classify this material as eye damaging or irritating |
| d) Respiratory or Skin sensitisation | There is sufficient evidence to classify this material as sensitising to skin or the respiratory system |
| e) Mutagenicity | Based on available data, the classification criteria are not met. |
| f) Carcinogenicity | There is sufficient evidence to classify this material as carcinogenic |
| g) Reproductivity | Based on available data, the classification criteria are not met. |
| h) STOT - Single Exposure | Based on available data, the classification criteria are not met. |
| i) STOT - Repeated Exposure | Based on available data, the classification criteria are not met. |
| j) Aspiration Hazard | Based on available data, the classification criteria are not met. |

| | |
|--------------|---|
| Inhaled | <p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>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.</p> |
| Ingestion | The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. |
| Skin Contact | <p>This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</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> |
| Eye | This material causes serious eye irritation. |
| Chronic | <p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information.</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>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</p> |

M-Bond 450 Part A

| | | |
|-----------------------|--|--|
| | 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. | |
| M-Bond 450 Part A | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| methyl ethyl ketone | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: 6480 mg/kg ^[2] | Eye (Human): 350ppm |
| | Inhalation (Mouse) LC50: 32 mg/L4h ^[2] | Eye (Rodent - rabbit): 80mg |
| | Oral (Rat) LD50: 2054 mg/kg ^[1] | Eye: adverse effect observed (irritating) ^[1] |
| | | Skin (Rodent - rabbit): 14mg/24H - Mild |
| | | Skin (Rodent - rabbit): 402mg/24H - Mild |
| | Skin (Rodent - rabbit): 500mg/24H - Moderate | |
| | Skin: no adverse effect observed (not irritating) ^[1] | |
| phenyl glycidyl ether | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: 1500 mg/kg ^[2] | Eye (Rodent - rabbit): 111mg - Mild |
| | Inhalation (Mouse) LC50: >681.049 mg/L4h ^[2] | Eye (Rodent - rabbit): 250ug/24H - Severe |
| | Oral (Mouse) LD50: 1400 mg/kg ^[2] | Skin (Rodent - rabbit): 10mg/24H - Severe |
| | | Skin (Rodent - rabbit): 20mg/24H - Moderate |
| | Skin: adverse effect observed (irritating) ^[1] | |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|--|---|
| METHYL ETHYL KETONE | The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Methyl ethyl ketone is considered to have a low order of toxicity; however, methyl ethyl ketone is often used in combination with other solvents and the mixture may have greater toxicity than either solvent alone. Combinations of n-hexane with methyl ethyl ketone, and also methyl n-butyl ketone with methyl ethyl ketone may result in an increased in peripheral neuropathy, a progressive disorder of the nerves of the extremities. Combinations with chloroform also show an increase in toxicity. |
| PHENYL GLYCIDYL ETHER | Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. |
| M-Bond 450 Part A & PHENYL GLYCIDYL ETHER | The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. |
| METHYL ETHYL KETONE & PHENYL GLYCIDYL ETHER | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. |

| | | | |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity | ✗ | Carcinogenicity | ✓ |
| Skin Irritation/Corrosion | ✗ | Reproductivity | ✗ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ✗ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ✗ |
| Mutagenicity | ✗ | Aspiration Hazard | ✗ |

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

M-Bond 450 Part A

| M-Bond 450 Part A | Endpoint | Test Duration (hr) | Species | Value | Source |
|-------------------|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

| methyl ethyl ketone | Endpoint | Test Duration (hr) | Species | Value | Source |
|---------------------|-----------|--------------------|-------------------------------|----------|--------|
| | EC50 | 72h | Algae or other aquatic plants | 1220mg/l | 2 |
| | EC50 | 48h | Crustacea | 308mg/l | 2 |
| | EC50 | 96h | Algae or other aquatic plants | >500mg/L | 4 |
| | NOEC(ECx) | 48h | Crustacea | 68mg/l | 2 |
| | LC50 | 96h | Fish | >324mg/L | 4 |

| phenyl glycidyl ether | Endpoint | Test Duration (hr) | Species | Value | Source |
|-----------------------|-----------|--------------------|---------|--------|--------|
| | EC50(ECx) | 96h | Fish | 43mg/L | 5 |
| | LC50 | 96h | Fish | 43mg/l | 2 |

| Legend: | Extractions |
|---------|---|
| | 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data |

For Methyl Ethyl Ketone:

log Kow: 0.26-0.69;

log Koc: 0.69;

Koc: 34;

Half-life (hr) air: 2.3;

Half-life (hr) H2O surface water: 72-288;

Henry's atm m³/mol: 1.05E-05;

BOD 5: 1.5-2.24, 46%;

COD: 2.2-2.31, 100%;

ThOD: 2.44;

BCF: 1.

Environmental Fate: Terrestrial Fate - Measured Koc values of 29 and 34 were obtained for methyl ethyl ketone in silt loams. Methyl ethyl ketone is expected to have very high mobility in soil. Volatilization of methyl ethyl ketone from moist and dry soil surfaces is expected. The volatilization half-life of methyl ethyl ketone from silt and sandy loams was measured as 4.9 days. Methyl ethyl ketone is expected to biodegrade under both aerobic and anaerobic conditions.

Aquatic Fate: Methyl ethyl ketone is not expected to adsorb to suspended solids and sediment in water and is expected to volatilize from water surfaces. Estimated half-lives for a model river and model lake are 19 and 197, hours respectively. Bioconcentration is expected to be low in aquatic systems.

Atmospheric Fate: Methyl ethyl ketone will exist solely as a vapour in the ambient atmosphere. Vapour-phase methyl ethyl ketone is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be about 14 days. Methyl ethyl ketone is also expected to undergo photodecomposition in the atmosphere by natural sunlight.

Ecotoxicity: Methyl ethyl ketone is not acutely toxic to fish, specifically, bluegill sunfish, guppy, goldfish, fathead minnow, mosquito fish, Daphnia magna water fleas and brine shrimp.

For Ketones: Ketones, unless they are alpha, beta--unsaturated ketones, can be considered as narcosis or baseline toxicity compounds.

Aquatic Fate: Hydrolysis of ketones in water is thermodynamically favourable only for low molecular weight ketones. Reactions with water are reversible with no permanent change in the structure of the ketone substrate. Ketones are stable to water under ambient environmental conditions. When pH levels are greater than 10, condensation reactions can occur which produce higher molecular weight products. Under ambient conditions of temperature, pH, and low concentration, these condensation reactions are unfavourable. Based on its reactions in air, it seems likely that ketones undergo photolysis in water.

Terrestrial Fate: It is probable that ketones will be biodegraded by micro-organisms in soil and water.

Ecotoxicity: Ketones are unlikely to bioconcentrate or biomagnify.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|-----------------------|---------------------------|------------------------------|
| methyl ethyl ketone | LOW (Half-life = 14 days) | LOW (Half-life = 26.75 days) |
| phenyl glycidyl ether | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|-----------------------|---------------------|
| methyl ethyl ketone | LOW (LogKOW = 0.29) |
| phenyl glycidyl ether | LOW (LogKOW = 1.61) |

Mobility in soil

| Ingredient | Mobility |
|-----------------------|--------------------------|
| methyl ethyl ketone | MEDIUM (Log KOC = 3.827) |
| phenyl glycidyl ether | LOW (Log KOC = 41.09) |

SECTION 13 Disposal considerations

Waste treatment methods

| Product / Packaging disposal | Disposal Instructions |
|------------------------------|--|
| | <ul style="list-style-type: none"> Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> Reduction Reuse |

M-Bond 450 Part A


- ▶ Recycling
- ▶ Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- ▶ **DO NOT allow wash water from cleaning or process equipment to enter drains.**
- ▶ It may be necessary to collect all wash water for treatment before disposal.
- ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.
- ▶ Recycle wherever possible.
- ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- ▶ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
- ▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 Transport information

Labels Required

| | |
|------------------|---|
| |  |
| Marine Pollutant | NO |

Land transport (TDG)

| | | |
|------------------------------------|--|----------------|
| 14.1. UN number or ID number | 1133 | |
| 14.2. UN proper shipping name | ADHESIVES containing flammable liquid | |
| 14.3. Transport hazard class(es) | Class | 3 |
| | Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Special provisions | Not Applicable |
| | Explosive Limit and Limited Quantity Index | 5 L |
| | ERAP Index | Not Applicable |

Air transport (ICAO-IATA / DGR)

| | | |
|------------------------------------|---|----------------|
| 14.1. UN number | 1133 | |
| 14.2. UN proper shipping name | ADHESIVES containing flammable liquid (having a flash point below 23°C and viscous according to ADR 2.2.3.1.4), packing group III | |
| 14.3. Transport hazard class(es) | ICAO/IATA Class | 3 |
| | ICAO / IATA Subsidiary Hazard | Not Applicable |
| | ERG Code | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Special provisions | Not Applicable |
| | Cargo Only Packing Instructions | Not Applicable |
| | Cargo Only Maximum Qty / Pack | Not Applicable |
| | Passenger and Cargo Packing Instructions | Not Applicable |
| | Passenger and Cargo Maximum Qty / Pack | Not Applicable |
| | Passenger and Cargo Limited Quantity Packing Instructions | Not Applicable |
| | Passenger and Cargo Limited Maximum Qty / Pack | Not Applicable |

Sea transport (IMDG-Code / GGVSee)

| | | |
|------------------------------------|---------------------------------------|----------------|
| 14.1. UN number | 1133 | |
| 14.2. UN proper shipping name | ADHESIVES containing flammable liquid | |
| 14.3. Transport hazard class(es) | IMDG Class | 3 |
| | IMDG Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | EMS Number | F-E, S-D |

M-Bond 450 Part A

| | |
|--------------------|---------|
| Special provisions | 223 955 |
| Limited Quantities | 5 L |

14.7. Maritime transport in bulk according to IMO instruments**14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|-----------------------|----------------|
| methyl ethyl ketone | Not Applicable |
| phenyl glycidyl ether | Not Applicable |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|-----------------------|----------------|
| methyl ethyl ketone | Not Applicable |
| phenyl glycidyl ether | Not Applicable |

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

methyl ethyl ketone is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS

phenyl glycidyl ether is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

Additional Regulatory Information

Not Applicable

National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (methyl ethyl ketone; phenyl glycidyl ether) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | All chemical substances in this product have been designated as TSCA Inventory 'Active' |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| UAE - Control List (Banned/Restricted Substances) | No (methyl ethyl ketone; phenyl glycidyl ether) |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

SECTION 16 Other information

| | |
|----------------------|------------|
| Revision Date | 03/04/2026 |
| Initial Date | 11/30/2025 |

Other information

M-Bond 450 Part A

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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