

TIMCOOL1.4- A

(PART A)

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: TimCool1.4-A**Other Means of Identification:** Thermal Conductivity Epoxy Compound (Part A)**Related Part #** TimCool1.4-1.2L

Recommended Use and Restriction on Use

Use: Epoxy resin for use with hardeners**Uses Advised Against:** Not applicable

Details of Manufacturer or Importer

ManufacturerMG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

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FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

☎ +1-905-331-1396
FAX +1-905-331-2682
E-MAIL info@mgchemicals.com

E-MAIL (Competent Person): sds@mgchemicals.com

Emergency Phone Number



For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents)
USA or CANADA—Call Verisk 3E at **+1-866-519-4752** or **+1-760-476-3962**
(Service access code: 335388)**For emergencies involving the transport of dangerous goods;** 24/7 service
CANADA—Call CANUTEC collect at **+1-613-996-6666** or ***666** on cellular phones

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Section 2: Hazard(s) Identification
Classification of Hazardous Chemical
GHS Categories

| Criteria | | Category | Signal Word | Pictograms |
|--------------------------------------|---------|----------|-------------|-------------|
| Sensitization | Skin | 1 | Warning | Exclamation |
| Eye Irritation | | 2 | Warning | Exclamation |
| Skin Irritation | | 2 | Warning | Exclamation |
| Hazardous to the Aquatic Environment | Chronic | 2 | <i>none</i> | Environment |

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

| | |
|---|--|
| Signal Word | WARNING |
| Pictograms | Hazard Statements |
|  | H317: May cause an allergic skin reaction H319: Causes serious eye irritation H315: Causes skin irritation |
|  | H411: Toxic to aquatic life with long lasting effects |

Section continued on the next page

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Continued...

| Prevention | Precautionary Statements |
|--------------------|--|
| P102 | Keep out of reach of children. |
| P261 | Avoid breathing fumes and vapors. |
| P280 | Wear protective gloves and eye protection. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P264 | Wash hands thoroughly after handling. |
| P273 | Avoid release to the environment. |
| Response | Precautionary Statements |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337 + P313 | If eye irritation persists: Get medical advice or attention. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice or attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |
| Storage | Precautionary Statements |
| P405 | Store locked up. |
| Disposal | Precautionary Statements |
| P501 | Dispose of contents in accordance to local, regional, national, and international regulations. |

Hazards Not Otherwise Classified

| Other Criteria | Hazard Statements/Precautionary Statement | Signal Word | Pictograms |
|-----------------------|--|--------------------|-------------------|
| None | None | None | None |

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Section 3: Composition/Information on Ingredients

| CAS # | Chemical Name | %(weight) |
|------------|--|-----------|
| 1344-28-1 | aluminium oxide | 60-80% * |
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin) | 30-45% * |

* The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: First-Aid Measures

| <i>Exposure Condition</i> | <i>GHS Code/Symptoms/Precautionary Statements</i> |
|---------------------------|--|
| IF IN EYES | P305 + P351 + P338, P337 + P313 |
| Immediate Symptoms | <i>redness, irritation, pain</i> |
| Response | Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. |
| IF ON SKIN | P302 + P352, P333 + P313, P362 + P364 |
| Immediate Symptoms | <i>redness, irritation, dry skin, allergic contact dermatitis</i> |
| Response | Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. |
| IF INHALED | P304 + P340, P312 |
| Immediate Symptoms | <i>Low Toxicity</i> |
| Response | Remove person to fresh air and keep comfortable for breathing. If you feel unwell: Get medical advice or attention. |
| IF SWALLOWED | P330, P331 |
| Immediate Symptoms | <i>Low Toxicity: irritation</i> |
| Response | Rinse mouth. Do NOT induce vomiting. |

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Section 5: Fire-Fighting Measures

| | |
|----------------------------|---|
| Extinguishing Media | In case of fire: Use extinguishing media suitable for surrounding materials. |
| Specific Hazards | Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke of unknown toxicity in fires. Aluminum oxide fumes may cause metal fever and irritate the respiratory tract. Prevent fire-fighting wash from entering waterway or sewer system. |
| Combustion Products | Produces carbon oxides (CO,CO ₂) and metal oxide fumes. |
| Fire-Fighter | Wear self-contained breathing apparatus and full fire-fighting turn-out gear. |

Section 6: Accidental Release Measures

| | |
|----------------------------------|---|
| Personal Protection | See personal protection recommendations in Section 8. |
| Precautions for Response | Avoid breathing the fumes and vapors. Remove or keep away all sources of extreme heat or open flames. |
| Environmental Precautions | Avoid releasing to the environment. Prevent spill from entering drains and waterways. |
| Containment Methods | Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite). |
| Cleaning Methods | Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe off residues with paper towels and place the used towels in the waste container. Use soap and water to remove the last traces of residue. |
| Disposal Methods | Dispose of spill waste according to Section 13. |

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Section 7: Handling and Storage**Prevention**

Keep out of reach of children.

Avoid breathing fumes and vapors.

Avoid release to the environment.

Handling

Wear protective gloves and eye protection.

Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

Wash hands thoroughly after handling.

Collect spillage.

Storage

Store locked up.

Store in a clean and dry area between 5 to 35 °C.

Section 8: Exposure Controls/Personal Protection**Substances with Occupational Exposure Limit Values**

| Chemical Name | Country | Long Term Exposure Limits (PEL) | Short Term Exposure Limits (STEL) |
|--|-----------------|---------------------------------|-----------------------------------|
| aluminum metal and insoluble compounds ^{a)} | ACGIH | 1 mg/m ³ | Not established |
| | U.S.A. OSHA PEL | 15 mg/m ³ | Not established |
| | Canada AB | 10 mg/m ³ | Not established |
| | Canada BC | 1 mg/m ³ | Not established |
| | Canada ON | 1 mg/m ³ | Not established |
| | Canada QC | 10 mg/m ³ | Not established |

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

a) Respirable airborne particles

Section continued on the next page

TIMCOOL1.4- A**(PART A)****Engineering Controls****Ventilation**

Keep airborne concentrations below the occupational exposure limits (OEL).

Note that the aluminum oxide is inextricably bound to the epoxy mixture; therefore, they are not available as airborne hazard under normal or foreseeable condition of use. Ensure adequate ventilation if the product is mechanically misted or aerosolized.

Personal Protective Equipment**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

RECOMMENDATION: Ensure that glasses have side shields for lateral protection.

Skin Protection

For likely contacts, use of protective butyl rubber or other chemically resistant gloves.

For incidental contacts, use nitrile or other chemically resistant gloves.

Respiratory Protection

For over-exposures up to 10 x OEL of vapors or fumes, wear respirator such as a half-mask respirator with organic vapor cartridges.

Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.

RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

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Section 9: Physical and Chemical Properties

| | | | |
|--|----------------------|--|---------------|
| Physical State | Liquid | Lower Flammability Limit | Not available |
| Appearance | Black | Upper Flammability Limit | Not available |
| Odor | Aromatic | Vapor Pressure @20 °C | Not available |
| Odor Threshold | Not available | Vapor Density | Not available |
| pH | Not available | Relative Density @25 °C | 2 |
| Freezing/Melting Point | Not available | Solubility in Water | Negligible |
| Initial Boiling Point ^{a)} | ≥150 °C [≥302 °F] | Partition Coefficient n-octanol/water | Not available |
| Flash Point ^{b)} | 200 °C [392 °F] | Auto-ignition Temperature | Not available |
| Evaporation Rate | Not available | Decomposition Temperature | Not available |
| Flammability | Non Flammable | Viscosity @25 °C | Not available |

a) Component with the lowest value—bisphenol-A epoxy resin (reaction product)

Section 10: Stability and Reactivity

| | |
|----------------------------|--|
| Reactivity | Reacts exothermically with amines. |
| Chemical Stability | Chemically stable at normal temperatures and pressures |
| Conditions to Avoid | Ignition sources, open flames, and incompatible substances |
| Incompatibilities | Strong oxidizing agents, strong acids, alkali |
| Polymerization | Will not occur |
| Decomposition | Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5. |

TIMCOOL1.4- A**(PART A)****Section 11: Toxicological Information****Summary of Effects and Symptoms by Routes of Exposure**

| | |
|-------------------|--|
| Eyes | May cause redness or irritation. |
| Skin | May cause skin redness, irritation, and allergic contact dermatitis. |
| Inhalation | Low Toxicity: May cause respiratory irritation. |
| Ingestion | Low Toxicity: May cause irritation if swallowed. |
| Chronic | Prolonged and repeated exposure may lead to skin sensitization. |

Acute Toxicity (Lethal Exposure Concentrations)

| Chemical Name | LD50 oral | LD50 dermal | LC50 inhalation |
|--|----------------------|------------------------|----------------------------|
| aluminium oxide | >2 000 mg/kg Rat | Not available | Not available |
| reaction product: bisphenol-A- (epichlorhydrin) | >2 000 mg/kg Rat | >2 000 mg/kg Rat | Not available |

Note: Toxicity data from the ECHA database were consulted. The data from supplier SDS were also consulted.

Section continued on the next page

TIMCOOL1.4- A**(PART A)****Other Toxicological Effects****Skin corrosion/irritation**

The epoxy resin causes skin irritation.

Serious eye damage/irritation

The epoxy resin causes serious eye irritation.

Sensitization

(allergic reactions)

Skin sensitizer based on animal studies on the epoxy components.

Carcinogenicity

(risk of cancer)

None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.

Mutagenicity

(risk of heritable genetic effects)

Based on available data, the classification criteria are not met.

Reproductive Toxicity

(risk to sex functions)

Based on available data, the classification criteria are not met.

Teratogenicity

(risk of fetus malformation)

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met. There is no category 1 components, and the kinematic viscosity is $>20.5 \text{ mm}^2/\text{s}$ at 40°C .

TIMCOOL1.4- A**(PART A)****Section 12: Ecological Information**

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

In Europe, similar epoxy resin mixtures with CAS# 25068-38-6 and 25085-99-8 have an average molecular weight of less than 700 are generally classified as chronic category 2 marine pollutant due to LC50 96 h of >1 mg/L but ≤10 mg/L.

Based on available data, aluminium oxide is not classified as environmental hazards according to GHS criteria.

Acute Ecotoxicity

See chronic ecotoxicity.

Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect spillage.

Biodegradability

Not available

Bioaccumulation

Not available

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations.

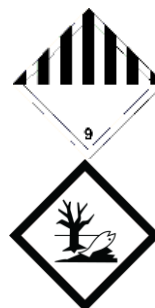
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Section 14: Transport Information
Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations);
USA DOT 49 CFR (Parts 100 to 185) **Regulations.**

Sizes 5 L and under
Part A of TimCool1.4-1.2L
NOT REGULATED in TDG
per Special Provisions 99

49 CFR: Sizes greater than 5 L

UN number: UN3082
Shipping Name:
ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (Reaction
product: bisphenol-A-(epichlorhydrin))
Class: 9
Packing Group: III
Marine Pollutant: Yes



Sizes 5 L and under
Part A of TimCool1.4-1.2L
NOT REGULATED in 49 CFR
per exception 171.4 (c)(2)

Special Provision 99 (2): These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.

Temperature sensitive—Keep between 5 °C and 35 °C.

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TIMCOOL1.4- A
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Air
Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 5 L and under
Part A of TimCool1.4-1.2L

NOT REGULATED

Not Restricted, as per
Special Provisions A197

Sizes greater than 5 L

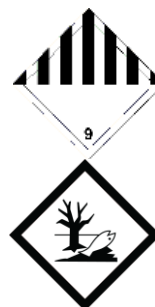
UN number: UN3082

Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Reaction product: bisphenol-A-
(epichlorhydrin))

Class: 9

Packing Group: III

Marine Pollutant: Yes



Special Provision A197: These substances when transported in single or combination packagings containing net quantity per single or inner packaging of less than 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Temperature sensitive—Keep between 5 °C and 35 °C.

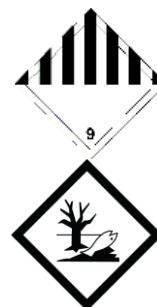
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TIMCOOL1.4- A
(PART A)
Sea
Refer to IMDG regulations.

Sizes 5 L and under
Part A of TimCool1.4-1.2L
NOT REGULATED
per 2.10.2.7

Sizes greater than 5 L

UN number: UN3082
Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Reaction product: bisphenol-A-
(epichlorhydrin))
Class: 9
Packing Group: III
Marine Pollutant: Yes



2.10.2.7: Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provision of this Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class, all provisions of this Code relevant to any additional hazards continue to apply.

Temperature sensitive—Keep between 5 °C and 35 °C.

Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

Section 15: Regulatory Information
Canada
Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL.

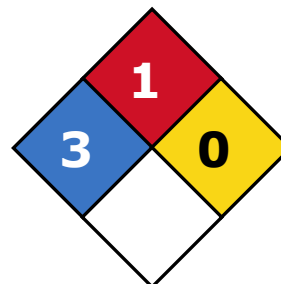
Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

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TIMCOOL1.4- A**(PART A)****USA****Other Classifications****HMIS[®] RATING**

| | |
|-----------------------------|------------|
| HEALTH: | * 3 |
| FLAMMABILITY: | 1 |
| PHYSICAL HAZARD: | 0 |
| PERSONAL PROTECTION: | |

NFPA[®] 704 CODES

Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain ingredients that are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372. **TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, USA)

This product does not contain any substances on the California Proposition 65 list.

Europe**RoHS** (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

TIMCOOL1.4- A**(PART A)****Section 16: Other Information****SDS Prepared by** MG Chemicals' Regulatory Department**Date of Review** 30 June 2023**Supersedes** Not applicable**Reason for Changes:** First release**Reference**

1) ACGIH 2023 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2023).

Abbreviations

| | |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists (USA) |
| EC50 | Half maximal effective concentration |
| EL50 | Half maximal effective loading |
| IARC | International Agency for Research on Cancer |
| NOELR | No observable effect loading ratio |
| NTP | National Toxicology Program |
| GHS | Globally Harmonized System of Classification of Labeling of Chemicals |
| LC50 | Lethal Concentration 50% |
| LCLo | Lowest published lethal concentration |
| LD50 | Lethal Dose 50% |
| OEL | Occupational Exposure Limit |
| PEL | Permissible Exposure Limit |
| SDS | Safety Data Sheet |
| STEL | Short-Term Exposure Limit |
| TCLo | Lowest published toxic concentration |
| TWA | Time Weighted Average |
| VOC | Volatile Organic Content |

Technical Queries Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

Email: support@mgchemicals.com

Phone: +1-905-331-1396

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TIMCOOL1.4- A**(PART A)**

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Disclaimer This safety data sheet is provided as an information resource only. *M.G. Chemicals, Ltd.* believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.