Kit Revision Date: 11/20/2025

8329TCM Thermally Conductive Epoxy Adhesive Kit

MG Chemicals Multipart Product Kit

This product is a kit made up of multiple parts. Each part is an independently packaged chemical component and has independent hazard assessments.

Kit Content

Part	*Product Name*	*Product Use*
A	8329TCM-A	Epoxy Resin
B	8329TCM-B	Epoxy hardener

Safety Data Sheets for each part listed above follow this cover sheet.

Transportation Instruction

Before offering this product kit for transport, read Section 14 for all parts listed above.

Safety Data Sheet

according to WHMIS 2023 and HCS 2024

Date of issue 11/13/2025 Version number 7.00 Revision: 11/12/2025

1 Identification

· **Product identifier**

· **Trade name: 8329TCM-A**

· **Other Means of Identification:** Thermally Conductive Epoxy Adhesive

· **Related Part Number:** 8329TCM-Part A, 8329TCM-6ML, 8329TCM-50ML, 8329TCM-200ML

· **Application of the substance / the mixture** Thermally conductive adhesive resin

· **Uses advised against** Not for use as a spray coating

· **Details of the supplier of the safety data sheet**

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Manufacturer/Supplier:
MG Chemicals (Head Office)
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA
+(1) 800-340-0772
+(1) 905-331-1396
info@mgchemicals.com

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Distributor:
Masline
511 Clinton Ave S
Rochester, New York 14620
United States
+(1) 586-546-5373

· **Information department:** sds@mgchemicals.com

· **Emergency telephone number:**

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents)
USA or CANADA-Call 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

2 Hazard identification

· **Classification of the substance or mixture**

Skin Irritation - Category 2	H315 Causes skin irritation.
Eye damage/irritation – Category 2A	H319 Causes serious eye irritation.
Sensitization - skin – Category 1	H317 May cause an allergic skin reaction.
Aquatic Acute 1	H400 Very toxic to aquatic life.
Aquatic Chronic 1	H410 Very toxic to aquatic life with long lasting effects.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

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· **Hazard pictograms**

GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labeling:**
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
phenol, polymer with formaldehyde, glycidyl ether

· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P102	Keep out of reach of children.
P261	Avoid breathing fumes and vapors.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, and eye protection.
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.
P333+P313	If skin irritation or rash occurs: Get medical advice.
P337+P313	If eye irritation persists: Get medical advice.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P501	Dispose of contents and container in accordance with local, regional, and national regulations.

· **Other hazards**
When exposed to extreme heat, this product may produce harmful zinc oxide and aluminum oxide fumes.

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
1344-28-1	aluminium oxide	41% w/w
1314-13-2	zinc oxide	30% w/w
25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) Alternative CAS number: 1675-54-3	16% w/w

(Contd. on page 3)

(Contd. of page 2)

28064-14-4	phenol, polymer with formaldehyde, glycidyl ether Alternative CAS number: 9003-36-5	4% w/w
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs	3% w/w
108-65-6	2-methoxy-1-methylethyl acetate	1% w/w
1333-86-4	Carbon black	1% w/w
68891-50-9	2-propenoic acid, polymer with 1,3-butadiene and 2-propenenitrile, 3-carboxy-1-cyano-1-methylpropyl-terminated	0.9% w/w
8052-41-3	Stoddard solvent	0.6% w/w

4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Remove person to fresh air and keep comfortable for breathing.
If feeling unwell: Call a POISON CENTRE or doctor.
· **After skin contact:**
Wash with plenty water.
If skin irritation or rash occurs: Get medical advice or attention.
Take off contaminated clothing and wash it before reuse.
· **After eye contact:**
Rinse cautiously with water for 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice or attention.
· **After swallowing:**
Rinse mouth.
Do NOT induce vomiting.
If symptoms persist consult doctor.
· **Information for doctor:** Treat symptomatically

· **Most important symptoms and effects, both acute and delayed**
See section 11 for additional information.

· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture**
Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke of unknown toxicity in fires.
Prevent fire-fighting wash from entering waterway or sewer system.
Inhalation of metal fumes may cause metal fever and irritate the respiratory tract.
The flu-like symptoms of metal fever may be delayed, occurring 4 to 12 hours after exposure.

(Contd. on page 4)

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· **Hazardous combustion products:**
Carbon Oxides (COx)
Boron oxides
Nitrogen Oxides (NOx)
toxic metal fumes

· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid breathing the fumes or vapors.
Remove or keep away all sources of extreme heat or open flames.

· **Environmental precautions:**
Avoid release to the environment.
Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**
Not readily flowable.
Collect in a sealable, chemical-resistant container.
Wipe the residues with a paper towel and place dirty towels in container.
Use soap and water to remove the last traces of residue.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**
Wear protective gloves and eye protection.
Wash hands and exposed skin thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Collect spillage.
Contaminated work clothing should not be allowed out of the workplace.
Avoid breathing the fumes, mist, and vapors.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Keep in a dry and clean area, away from incompatible substances
DO NOT FREEZE. Store in a clean and dry area between 5 to 35 °C.
· **Information about storage in one common storage facility:** Not required.

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(Contd. of page 4)

· **Further information about storage conditions:** Keep receptacle tightly sealed.

· **Specific end use(s)** See section 1.2

8 Exposure controls/ Personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
1344-28-1 aluminium oxide	
EL (Canada)	TWA: 1.0 mg/m³ respirable, as Al
EV (Canada)	TWA: 10 mg/m³ total dust
PEL (USA)	TWA: 15*; 5** mg/m³ *Total dust; ** Respirable fraction
REL (USA)	TWA: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	TWA: 1* mg/m³ as Al; *as respirable fraction, A4
1314-13-2 zinc oxide	
EL (Canada)	STEL: 10 mg/m³ TWA: 2 mg/m³ respirable
EV (Canada)	STEL: 10 mg/m³ TWA: 2 mg/m³ respirable
PEL (USA)	TWA: 15* 5** mg/m³ *total dust **respirable fraction and fume
REL (USA)	STEL: 10** mg/m³ TWA: 5 mg/m³ Ceiling: 15* mg/m³ *dust only **fume
TLV (USA)	STEL: 10* mg/m³ TWA: 2* mg/m³ *respirable particulate matter
108-65-6 2-methoxy-1-methylethyl acetate	
EL (Canada)	STEL: 75 ppm TWA: 50 ppm
EV (Canada)	TWA: 270 mg/m³, 50 ppm
WEEL (USA)	TWA: 50 ppm
1333-86-4 Carbon black	
EL (Canada)	TWA: 3 mg/m³ IARC 2B
EV (Canada)	TWA: 3.5 mg/m³

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PEL (USA)	TWA: 3.5 mg/m³
REL (USA)	TWA: 3.5* mg/m³ *0.1 in presence of PAHs;See Pocket Guide Apps.A+C
TLV (USA)	TWA: 3* mg/m³ *inhalable fraction, A3

· **Additional information:**
The lists that were valid during the creation were used as basis.
Refer to the national or regional occupational exposure limit regulation for abbreviations and acronyms.

· Exposure controls

· **Appropriate engineering controls** Keep airborne concentrations below exposure limits.

· **Personal protective equipment:**

· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Advice should be sought from respiratory protection specialists.
Use suitable respiratory protective device in case of insufficient ventilation.
If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

· **Protection of hands:**
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Protective gloves: EN374

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**

Safety glasses or tightly sealed goggles: EN 166

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Physical state**	Solid
· **Form:**	Pasty
· **Color:**	Dark grey
· **Odor:**	Light
· **Odor threshold:**	Not determined.
· **Melting point/Melting range:**	Undetermined.
· **Flammability:**	Non flammable
· **Explosion limits:**	
· **Lower:**	Not applicable
· **Upper:**	Not applicable
· **Flash point:**	149 °C (300.2 °F)
· **Auto igniting:**	Not determined
· **Decomposition temperature:**	Not determined.
· **pH-value:**	Not applicable.
· **Viscosity:**	
· **Kinematic:**	Not applicable.
· **Dynamic:**	Not applicable.
· **Solubility in / Miscibility with**	
· **Water:**	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Vapor pressure:**	Not determined.
· **Relative density at 25 °C (77 °F):**	2.48
· **Vapor density (air=1):**	Not applicable.
· **Particle characteristics**	Not determined.

· **Other information**	
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Organic solvents:**	1.00 %
· **VOC content:**	1.000 %
· **Solids content:**	100.0 %

(Contd. on page 8)

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· **Evaporation rate**	Not applicable.

10 Stability and reactivity

· **Reactivity** Reacts exothermically with amines.

· **Chemical stability** Chemically stable at normal temperatures and pressures.

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid**
Avoid ignition sources, open flames, and incompatible substances.
Do not use in away that forms mist or aerosolizes the product.

· **Incompatible materials:**
Strong acids
Strong bases
Ammonia
Halogenated compounds
Strong oxidizing agents
alkali

· **Hazardous decomposition products:**
No dangerous decomposition products known.
Hazardous combustion products: see section 5.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
1344-28-1 aluminium oxide		
Oral	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>2 mg/L (mouse)
1314-13-2 zinc oxide		
Oral	LD50	7,950 mg/kg (rat)
25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)		
Oral	LD50	11,400 mg/kg (rat)
28064-14-4 phenol, polymer with formaldehyde, glycidyl ether		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)

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68609-97-2 oxirane, mono[(C12-14-alkyloxy)methyl] derivs		
Oral	LD50	19,200 mg/kg (rat)
Dermal	LD50	4,500 mg/kg (rat)
108-65-6 2-methoxy-1-methylethyl acetate		
Oral	LD50	8,532 mg/kg (rat)
Dermal	LD/50	5 g/kg (rabbit)
Inhalative	LC50/4 h	35.7 mg/L (rat)
1333-86-4 Carbon black		
Oral	LD50	>15,400 mg/kg (rat)
Dermal	LD50	>3,000 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:**
Sensitization possible through skin contact.
May cause an allergic skin reaction.

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - single exposure**
Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - repeated exposure**
Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Summary of effects and symptoms by route of exposure**
· **Eyes:**
redness, serious irritation
pain
· **Skin:**
rash, allergic contact dermatitis
redness, irritation
dry skin
· **Inhalation:**
may cause mild respiratory irritation
cough
· **Swallowed:** see inhalation symptoms
· **Delayed and immediate effects as well as chronic effects from short and long-term exposure**
Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization.

· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
1333-86-4	Carbon black	2B

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**
Very toxic to aquatic life with long lasting effect.
Avoid release to the environment.
Collect spillage.

1314-13-2 zinc oxide	
LC50	0.042 mg/L (fish)
28064-14-4 phenol, polymer with formaldehyde, glycidyl ether	
LC50 96h	>1–≤10 mg/L (not defined) In Europe, similar epoxy resin mixtures with CAS 28064-14-4 are generally classified as chronic category 2 marine pollutant due to LC50 96 h of >1 mg/L but ≤10 mg/L.
1333-86-4 Carbon black	
EC50/ 24 h	>5,600 mg/L (aquatic invertebrates)
EC50/ 72 h	>10,000 mg/L (aquatic algae and cyanobacteria)
EC0/ 3 h	>800 mg/L (microorganisms)
LC50	>1,000 mg/L (fish)

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

· **Other adverse effects**
· **Remark:** Very toxic for fish

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:** This material and its container must be disposed of as hazardous waste.

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· **Uncleaned packagings:**
· **Recommendation:**
Containers may still present a chemical hazard/ danger when empty.
Dispose of contents in accordance with all local, regional, national, and international regulations.
Where possible retain label warnings and SDS and observe all notices pertaining to the product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT/TDG, IMDG, IATA**	UN3077
· **UN proper shipping name**	
· **DOT/TDG**	NOT REGULATED by DOT Environmentally hazardous substance, solid, n.o.s. (zinc oxide, reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))
· **IMDG**	NOT REGULATED for sea freight IMDG according to 2.10.2.7 for sizes up to 5 kg. ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide, reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))
· **IATA**	NOT REGULATED by Air IATA Special Provision A197 for sizes 5kg or less. Environmentally hazardous substance, solid, n.o.s. (zinc oxide, reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))
· **Transport hazard class(es)**	
· **DOT/TDG, IMDG**	
· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9
· **IATA**	
· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9

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· **Packing group**	
· **DOT/TDG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	MARINE POLLUTANT
· **Special marking (IATA):**	ENVIRONMENTALLY HAZARDOUS Symbol (fish and tree)
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT/TDG**	
· **Quantity limitations**	On passenger aircraft/rail: 400 kg On cargo aircraft only: 400 kg
· **IMDG**	
· **Limited quantities (LQ)**	5 kg
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **Special precautions for user**	Not applicable.
· **Hazard identification number (Kemler code):**	90
· **EMS Number:**	F-A,S-F
· **Stowage Category**	A
· **Stowage Code**	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· **UN "Model Regulation":**	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC OXIDE, REACTION PRODUCT: BISPHENOL-A-(EPICHLORHYDRIN) EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT ≤ 700)), 9, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **OSHA Hazard Communication Standard (29 CFR Part 1900)**
The safety data sheet and label comply with HCS 2024.

· **Hazardous Products Act (R.S.C., 1985, c. H-3)**
The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2023.

· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

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· **Section 313 (Specific toxic chemical listings):**	
1344-28-1	aluminium oxide
1314-13-2	zinc oxide

· **TSCA (Toxic Substances Control Act):**		
1344-28-1	aluminium oxide	ACTIVE
1314-13-2	zinc oxide	ACTIVE
25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	ACTIVE
28064-14-4	phenol, polymer with formaldehyde, glycidyl ether	ACTIVE
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs	ACTIVE
108-65-6	2-methoxy-1-methylethyl acetate	ACTIVE
1333-86-4	Carbon black	ACTIVE
68891-50-9	2-propenoic acid, polymer with 1,3-butadiene and 2-propenenitrile, 3-carboxy-1-cyano-1-methylpropyl-terminated	ACTIVE

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**	
1333-86-4	Carbon black

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Note:**
This product contains carbon black, but it is bound and exposures during normal conditions of uses are below the Safe Harbor Threshold.

· **Carcinogenic categories**

· **TLV (Threshold Limit Value)**		
1344-28-1	aluminium oxide	A4
1333-86-4	Carbon black	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
1333-86-4	Carbon black

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**
All ingredients are listed.

· **Canadian Non-Domestic Substances List (NDSL)**
None of the ingredients is listed.

(Contd. on page 14)

(Contd. of page 13)

· **Canadian Ingredient Disclosure list (limit 0.1%)**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**	
1344-28-1	aluminium oxide
1314-13-2	zinc oxide
1333-86-4	Carbon black

· **HMIS-ratings (scale 0 - 4)**
Health = * 2
Fire = 1
Reactivity = 0

· **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.

· **Per- and polyfluoroalkyl substances (PFAS)**
None of the ingredients is listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Regulatory department
· **Contact:** sds@mgchemicals.com
· **Date of previous version** 10/27/2025
· **Version number of previous version:** 6.00
· **Date of preparation** 11/13/2025
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety

Safety Data Sheet

according to WHMIS 2023 and HCS 2024

Date of issue 11/20/2025 Version number 6.00 Revision: 11/12/2025

1 Identification

· **Product identifier**

· **Trade name: 8329TCM-B**

· **Other Means of Identification:** Thermally Conductive Epoxy Adhesive

· **Related Part Number:** 8329TCM-Part B, 8329TCM-6ML (B), 8329TCM-50ML (B), 8329TCM-200ML (B)

· **Application of the substance / the mixture** Thermally conductive adhesive hardener

· **Uses advised against** Not for use as a spray coating

· **Details of the supplier of the safety data sheet**

·

Manufacturer/Supplier:
MG Chemicals (Head Office)
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA
+(1) 800-340-0772
+(1) 905-331-1396
info@mgchemicals.com

·

Distributor:
Masline
511 Clinton Ave S
Rochester, New York 14620
United States
+(1) 586-546-5373

· **Information department:** sds@mgchemicals.com

· **Emergency telephone number:**

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents)
USA or CANADA-Call 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

* 2 Hazard identification

· **Classification of the substance or mixture**

Skin Corrosion - Category 1B	H314 Causes severe skin burns and eye damage.
Eye damage/irritation – Category 1	H318 Causes serious eye damage.
Sensitization - skin – Category 1	H317 May cause an allergic skin reaction.
Aquatic Acute 1	H400 Very toxic to aquatic life.
Aquatic Chronic 1	H410 Very toxic to aquatic life with long lasting effects.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

(Contd. of page 1)

· **Hazard pictograms**

GHS05 GHS07 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**
polyoxypropylene diamine
3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine
Carbon black

· **Hazard statements**
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P102	Keep out of reach of children.
P260	Do not breathe vapors or fumes.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, and eye protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P333+P313	If skin irritation or rash occurs: Get medical advice.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local, regional, and national regulations.

· **Other hazards**
When exposed to extreme heat, this product may produce harmful zinc oxide and aluminum oxide fumes.

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
1344-28-1	aluminium oxide	39% w/w

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(Contd. of page 2)

1314-13-2	zinc oxide	32% w/w
68541-13-9	fatty acids, c18-unsat, dimer, polymers, w/3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine	16% w/w
9046-10-0	polyoxypropylene diamine	6% w/w
4246-51-9	3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine	3% w/w
1333-86-4	Carbon black	0.9% w/w

4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor.
· **After skin contact:**
Take off immediately all contaminated clothing. Wash with plenty of water or shower.
Immediately call a POISON CENTRE or doctor.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs: Get medical advice or attention.
· **After eye contact:**
Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.
· **After swallowing:**
Rinse mouth. Do not induce vomiting.
Immediately call a POISON CENTER or doctor.
· **Information for doctor:** Treat symptomatically

· **Most important symptoms and effects, both acute and delayed**
See section 11 for additional information.

· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture**
The flu-like symptoms of metal fever may be delayed, occurring 4 to 12 hours after exposure.
During heating or in case of fire poisonous gases are produced.
Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke of unknown toxicity in fires.
Prevent fire-fighting wash from entering waterway or sewer system.
Inhalation of metal fumes may cause metal fever and irritate the respiratory tract.

(Contd. on page 4)

(Contd. of page 3)

· **Hazardous combustion products:**
Carbon Oxides (COx)
toxic metal fumes

· **Advice for firefighters**
· **Protective equipment:** Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Remove or keep away all sources of extreme heat or open flames.
Do not breathe fumes, mist or vapors.

· **Environmental precautions:**
Avoid release to the environment.
Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**
Not readily flowable.
Collect in a sealable, chemical-resistant container.
Wipe the residues with a paper towel and place dirty towels in container.
Use soap and water to remove the last traces of residue.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and storage

· **Precautions for safe handling**
Wear protective gloves and eye protection.
Wash hands and exposed skin thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Collect spillage.
Contaminated work clothing should not be allowed out of the workplace.
Do not breathe mist, vapours, spray.
Do not eat, drink, or smoke when using this product.
· **Information about protection against explosions and fires:**
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Keep in a dry and clean area, away from incompatible substances
· **Information about storage in one common storage facility:** Not required.

(Contd. on page 5)

(Contd. of page 4)

· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store locked up.

· **Specific end use(s)** See section 1.2

8 Exposure controls/ Personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
1344-28-1 aluminium oxide	
EL (Canada)	TWA: 1.0 mg/m³ respirable, as Al
EV (Canada)	TWA: 10 mg/m³ total dust
PEL (USA)	TWA: 15*; 5** mg/m³ *Total dust; ** Respirable fraction
REL (USA)	TWA: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	TWA: 1* mg/m³ as Al; *as respirable fraction, A4
1314-13-2 zinc oxide	
EL (Canada)	STEL: 10 mg/m³ TWA: 2 mg/m³ respirable
EV (Canada)	STEL: 10 mg/m³ TWA: 2 mg/m³ respirable
PEL (USA)	TWA: 15* 5** mg/m³ *total dust **respirable fraction and fume
REL (USA)	STEL: 10** mg/m³ TWA: 5 mg/m³ Ceiling: 15* mg/m³ *dust only **fume
TLV (USA)	STEL: 10* mg/m³ TWA: 2* mg/m³ *respirable particulate matter
1333-86-4 Carbon black	
EL (Canada)	TWA: 3 mg/m³ IARC 2B
EV (Canada)	TWA: 3.5 mg/m³
PEL (USA)	TWA: 3.5 mg/m³

(Contd. on page 6)

(Contd. of page 5)

REL (USA)	TWA: 3.5* mg/m³ *0.1 in presence of PAHs;See Pocket Guide Apps.A+C
TLV (USA)	TWA: 3* mg/m³ *inhalable fraction, A3

· **Additional information:**
The lists that were valid during the creation were used as basis.
Refer to the national or regional occupational exposure limit regulation for abbreviations and acronyms.

· Exposure controls

· **Appropriate engineering controls** Keep airborne concentrations below exposure limits.

· **Personal protective equipment:**

· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

· **Breathing equipment:**
Advice should be sought from respiratory protection specialists.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

· **Protection of hands:**
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Protective gloves: EN374

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**

Safety glasses or tightly sealed goggles: EN 166

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Physical state**	Solid
· **Form:**	Pasty
· **Color:**	Dark grey
· **Odor:**	Amine-like
· **Odor threshold:**	Not determined.
· **Melting point/Melting range:**	Undetermined.
· **Flammability:**	Non flammable
· **Explosion limits:**	
· **Lower:**	Not applicable
· **Upper:**	Not applicable
· **Flash point:**	222 °C (431.6 °F)
· **Auto igniting:**	370 °C (698 °F)
· **Decomposition temperature:**	Not determined.
· **pH-value:**	Not applicable.
· **Viscosity:**	
· **Kinematic:**	Not applicable.
· **Dynamic:**	Not applicable.
· **Solubility in / Miscibility with**	
· **Water:**	Insoluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Vapor pressure:**	Not determined.
· **Relative density at 25 °C (77 °F):**	2.38
· **Vapor density (air=1):**	Not applicable.
· **Particle characteristics**	Not determined.

· **Other information**	
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Organic solvents:**	Not available
· **VOC content:**	0.000 %
· **Solids content:**	100.0 %

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(Contd. of page 7)

· **Evaporation rate**	Not applicable.

* 10 Stability and reactivity

· **Reactivity** Reacts exothermically with amines.

· **Chemical stability** Chemically stable at normal temperatures and pressures.

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid**
Avoid ignition sources, open flames, and incompatible substances.
Do not use in away that forms mist or aerosolizes the product.

· **Incompatible materials:**
Halogenated compounds
Strong oxidizing agents
Strong acids

· **Hazardous decomposition products:**
No dangerous decomposition products known.
Hazardous combustion products: see section 5.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
1344-28-1 aluminium oxide		
Oral	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>2 mg/L (mouse)
1314-13-2 zinc oxide		
Oral	LD50	7,950 mg/kg (rat)
4246-51-9 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine		
Oral	LD50	4,310 mg/kg (rat)
Dermal	LD50	2,510 mg/kg (rabbit)
1333-86-4 Carbon black		
Oral	LD50	>15,400 mg/kg (rat)
Dermal	LD50	>3,000 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** Caustic effect on skin and mucous membranes.

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· **on the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Sensitization:**
Sensitization possible through skin contact.
May cause an allergic skin reaction.

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - single exposure**
Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - repeated exposure**
Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Summary of effects and symptoms by route of exposure**
· **Eyes:**
chemical burns
redness
eye damage, pain
· **Skin:**
rash, allergic contact dermatitis
chemical burns
· **Inhalation:** may cause mild respiratory irritation
· **Swallowed:**
May cause pain and corrosive burns to the mouth, throat, esophagus, and stomach.
may cause irritation
allergic reactions
see inhalation symptoms

· **Delayed and immediate effects as well as chronic effects from short and long-term exposure**
Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization.

· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
1333-86-4	Carbon black	2B

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:**
Very toxic to aquatic life with long lasting effect.
Avoid release to the environment.
Collect spillage.

1314-13-2 zinc oxide	
LC50	0.042 mg/L (fish)
4246-51-9 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine	
LC50 96h	>1,000 mg/L (fish)
1333-86-4 Carbon black	
EC50/ 24 h	>5,600 mg/L (aquatic invertebrates)
EC50/ 72 h	>10,000 mg/L (aquatic algae and cyanobacteria)
EC0/ 3 h	>800 mg/L (microorganisms)
LC50	>1,000 mg/L (fish)

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:** This material and its container must be disposed of as hazardous waste.

· **Uncleaned packagings:**
· **Recommendation:**
Containers may still present a chemical hazard/ danger when empty.
Dispose of contents in accordance with all local, regional, national, and international regulations.
Where possible retain label warnings and SDS and observe all notices pertaining to the product.

* 14 Transport information

· **UN-Number**
· **DOT/TDG, IMDG, IATA** UN3263

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· **UN proper shipping name**
· **DOT/TDG, IATA** Corrosive solid, basic, organic, n.o.s. (polyoxypropylene diamine, 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine)
· **IMDG** CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (polyoxypropylene diamine, 3,3'-(oxybis(2,1-ethane-diyloxy)) bis-1-propanamine)

· **Transport hazard class(es)**
· **DOT/TDG (Transport dangerous goods):**

· **Class** 8 Corrosive substances
· **Label** 8

· **IMDG, IATA**

· **Class** 8 Corrosive substances
· **Label** 8

· **Packing group**
· **DOT/TDG, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances: zinc oxide
· **Marine pollutant:** MARINE POLLUTANT
· **Special marking (IATA):** ENVIRONMENTALLY HAZARDOUS

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

Limited Quantity

8329TCM-6ML, 8329TCM-50ML, 8329TCM-200ML

· **DOT/TDG**
· **Quantity limitations** On passenger aircraft/rail: 15 kg
On cargo aircraft only: 50 kg

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· **IMDG**	
· **Limited quantities (LQ)**	1 kg
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· **Special precautions for user**	Not applicable.
· **Hazard identification number (Kemler code):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	(SGG18) Alkalis
· **Stowage Category**	B
· **Segregation Code**	SG35 Stow "separated from" SGG1-acids
· **UN "Model Regulation":**	UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (POLYOXYPROPYLENE DIAMINE, 3,3'-(OXYBIS(2,1-ETHANE-DIYLOXY))BIS-1-PROPANAMINE), 8, II

* 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **OSHA Hazard Communication Standard (29 CFR Part 1900)**
The safety data sheet and label comply with HCS 2024.

· **Hazardous Products Act (R.S.C., 1985, c. H-3)**
The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2023.

· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**	
1344-28-1	aluminium oxide
1314-13-2	zinc oxide

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**	
1333-86-4	Carbon black

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Note:**
This product contains carbon black, but it is bound and exposures during normal conditions of uses are below the Safe Harbor Threshold.

· **Carcinogenic categories**

· **TLV (Threshold Limit Value)**		
1344-28-1	aluminium oxide	A4
1333-86-4	Carbon black	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
1333-86-4	Carbon black

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**
All ingredients are listed.

· **Canadian Non-Domestic Substances List (NDSL)**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**	
1344-28-1	aluminium oxide
1314-13-2	zinc oxide

· **HMIS-ratings (scale 0 - 4)**
Health = * 3
Fire = 1
Reactivity = 0

· **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.

· **Per- and polyfluoroalkyl substances (PFAS)**
None of the ingredients is listed.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Regulatory department
· **Contact:** sds@mgchemicals.com
· **Date of previous version** 10/27/2025
· **Version number of previous version:** 5.00
· **Date of preparation** 11/20/2025
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
· *** Data compared to the previous version altered.**