

Kit Revision Date: 28/04/2025

8329HTC THERMALLY CONDUCTIVE STRUCTURAL 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 |
|------|--------------|-------------------------------------|
| Α | 8329HTC-A | Epoxy resin for use with hardeners |
| В | 8329HTC-B | Epoxy hardener for uses with resins |

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 <u>all</u> parts listed above.



Version number 2.00

Safety Data Sheet according to WHMIS 2023 and HCS 2024

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Revision: 04/28/2025

1 Identification

Date of issue 04/28/2025

· Product identifier

· Trade name: 8329HTC-A

- · Other Means of Identification: Thermally Conductive Structural Epoxy Adhesive (Part A)
- · Related Part Number: 8329HTC-Part A, 8329HTC-50ML, 8329HTC-400ML
- · Application of the substance / the mixture Epoxy resin
- · 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

- · Information department: sds@mgchemicals.com
- · Emergency telephone number:

info@mgchemicals.com

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

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 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).

· Hazard pictograms





GHS07

GHS09

- · Signal word Warning
- · Hazard-determining components of labeling:

aluminium nitride

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

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according to WHMIS 2023 and HCS 2024

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· 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 / 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.

3 Composition/Information on ingredients

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

| · Dangero | · Dangerous components: | | |
|-------------|--|--------------|--|
| 1 | aluminium nitride | 30-50% w/w * | |
| 7429-90-5 | aluminium powder | 25–45% w/w * | |
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) Alternative CAS number: 1675-54-3 | 25–45% w/w * | |
| 112945-52-5 | amorphous fumed silica | 1–5% w/w * | |

^{*} Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

- Description of first aid measures
 - · After inhalation:

Remove person to fresh air and keep comfortable for breathing.

If feeling unwell: Call a POISON CENTRE or doctor.

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[·] Other hazards Not available



according to WHMIS 2023 and HCS 2024

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· 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.
 - · For safety reasons unsuitable extinguishing agents: Water
- · 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.

· Hazardous combustion products:

Carbon Oxides (COx) Aluminum oxides

other toxic 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

Ensure adequate ventilation

Remove or keep away all sources of extreme heat or open flames.

Avoid breathing the fumes or vapors.

· Environmental precautions:

Avoid release to the environment.

Do not allow to enter sewers/ surface or ground water.

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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

Ensure good ventilation/exhaustion at the workplace.

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.

Keep out of reach of children.

Avoid breathing fumes or vapours.

- · 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:

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.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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: | | |
|--|--------------------------|--|
| 24304-00-5 aluminium nitride | | |
| REL (USA) | TWA: 2 mg/m ³ | |
| | as Al | |
| | (Contd. on page 5) | |

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| 7429-90-5 aluminium powder | | |
|---|---|--|
| ` ' | TWA: 1.0 mg/m ³ respirable, as Al | |
| | 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. | | |
| | TWA: 1* mg/m³ as AI; *as respirable fraction, A4 | |

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

· Form:

· Color:

· Odor:

· Odor threshold:

· Melting point/Melting range:

Boiling point/Boiling range:Flammability:

· Explosion limits:

· Lower: · Upper:

· Flash point:

· Auto igniting:

Decomposition temperature:

· pH-value:

· Viscosity:

· Kinematic:

· Dynamic:

· Solubility in / Miscibility with

· Water:

· Partition coefficient (n-octanol/water):

· Vapor pressure:

· Vapor pressure:

Relative density at 25 °C (77 °F):

· Vapor density (air=1):

· Particle characteristics

>1.8

Solid

Pasty

Black

gases.

Aromatic

Undetermined.

Undetermined.

Non flammable

200 °C (392 °F)

Not determined

Not determined.

Not applicable.

Not applicable

Not applicable

Not applicable.

Not applicable.

Not determined.

Contact with water liberates extremely flammable

Not applicable.

Not determined.

Insoluble.

Not determined.

Not applicable.

Other information

Important information on protection of health and environment, and on safety.

· Ignition temperature:

· Danger of explosion:

· Solvent content:

· Organic solvents:

· Solids content:

Product is not selfigniting.

Product does not present an explosion hazard.

Not available

100.0 %

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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 Contact with water releases flammable gases.
- · Conditions to avoid Do not use in away that forms mist or aerosolizes the product.
- · Incompatible materials:

Strong bases Ammonia Strong oxidizing agents Strong acids 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:

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Oral LD50 11,400 mg/kg (rat)

- 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.

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· 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
 - · Eves:

redness, serious irritation

pain

· Skin:

rash, allergic contact dermatitis redness, irritation dry skin

· Inhalation:

irritation of the respiratory tract cough

· Swallowed:

Low toxicity:

irritation to the mouth, throat, esophagus, and stomach

- 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

- · Carcinogenic categories
 - · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· 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.

- · 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.

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· 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 | UN3077 |
|--------------------------------------|--|
| · UN proper shipping name | |
| · DOT/TDG | NOT REGULATED by DOT |
| | Environmentally hazardous substance, solid, n.o.s. |
| | (aluminium nitride) |
| · 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. (aluminium nitride) |
| ·IATA | NOT REGULATED by Air IATA Special Provision A197 for |
| | sizes 5kg or less. |
| | Environmentally hazardous substance, solid, n.o.s. |
| | (aluminium nitride) |

- · Transport hazard class(es)
 - · DOT/TDG, IMDG



· Class 9 Miscellaneous dangerous substances and articles

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· Label

·IATA



· Class

· Label

9 Miscellaneous dangerous substances and articles

· Packing group

· DOT/TDG, IMDG, IATA

Ш

· 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.

90

· Hazard identification number (Kemler code): · EMS Number:

F-A,S-F

· Stowage Category

· 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. (ALUMINIUM NITRIDE), 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.

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· 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): | |
| None of the ingredients is listed. | |
| · TSCA (Toxic Substances Control Act): | |
| 24304-00-5 aluminium nitride | ACTIVE |
| 25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) | ACTIVE |
| · Hazardous Air Pollutants | |

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

None of the ingredients is listed.

· 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.

· Carcinogenic categories

· TLV (Threshold Limit Value)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Canadian substance listings:

| · Canad | lian Domestic Substances List (DSL) | |
|------------------------------------|--|--|
| 24304-00-5 | aluminium nitride | |
| | reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) | |
| 112945-52-5 | amorphous fumed silica | |
| · Canad | · 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.

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· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· HMIS-ratings (scale 0 - 4)

Health = *2Fire = 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.

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
- · Version number of previous version: 1.00
- · Date of preparation 04/28/2025
- · 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)

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.

CA -



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1 Identification

· Product identifier

· Trade name: 8329HTC-B

- Other Means of Identification: Thermally Conductive Structural Epoxy Adhesive (Part B)
- · Related Part Number: 8329HTC-Part B, 8329HTC-50ML (B), 8329HTC-400ML (B)
- · Application of the substance / the mixture Epoxy Hardener
- · Uses advised against Not available
- · 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

- · Information department: sds@mgchemicals.com
- · Emergency telephone 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

2 Hazard identification

· Classification of the substance or mixture

Skin Irritation - Category 2 H315 Causes skin irritation.

Eye damage/irritation - Category 1 H318 Causes serious eye damage.

Sensitization - skin - Category 1 H317 May cause an allergic skin reaction.

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).

· Hazard pictograms







GHS05

GHS07

· Signal word Danger

· Hazard-determining components of labeling:

fatty acids, C18-unsatd., dimers, polymerswith tall-oil fatty acids andtriethylenetetramine aluminium nitride

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· Hazard statements

H315 Causes skin irritation.

H318 Causes serious 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.
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 / 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.

P310 Immediately call a POISON CENTER/doctor.

P333+P313 If skin irritation or rash occurs: 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.

3 Composition/Information on ingredients

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

| Dangerous components: | | |
|-----------------------|---|--------------|
| | aluminium nitride | 30-50% w/w * |
| 7429-90-5 | aluminium powder | 25–45% w/w * |
| | fatty acids, C18-unsatd., dimers, polymerswith tall-oil fatty acids andtriethylenetetramine | 25–45% w/w * |
| 112945-52-5 | amorphous fumed silica | 1–5% w/w * |

^{*} Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

- Description of first aid measures
 - · 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.

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[·] Other hazards Not available



according to WHMIS 2023 and HCS 2024

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· 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.

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.

· Hazardous combustion products:

Carbon Oxides (COx) Aluminum oxides

Nitrogen Oxides (NOx)

- · 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.

Avoid breathing the fumes 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.

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· 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

Ensure good ventilation/exhaustion at the workplace.

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.

Keep out of reach of children.

Avoid breathing fumes or vapours.

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

- · Information about storage in one common storage facility: Not required.
- · 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: | | |
|--|---|--|
| 24304-00-5 a | 24304-00-5 aluminium nitride | |
| REL (USA) | TWA: 2 mg/m ³ as Al | |
| 7429-90-5 al | 7429-90-5 aluminium powder | |
| EL (Canada) | TWA: 1.0 mg/m³ respirable, as Al | |
| 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 | |

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· 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.

Store protective clothing separately.

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.

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.

· Eye protection:



Safety glasses or tightly sealed goggles: EN 166

CA —



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9 Physical and chemical properties

· Information on basic physical and chemical properties

Physical state Solid Form: Pastv

· Color: Grey · Odor: Amine-like

Odor threshold:
Melting point/Melting range:
Boiling point/Boiling range:
Flammability:
Non flammable

· Flammability: · Explosion limits:

cplosion limits: · Lower:

 · Upper:
 Not applicable

 · Flash point:
 180 °C (356 °F)

 · Auto igniting:
 >400 °C (>752 °F)

 · Decomposition temperature:
 Not determined

Decomposition temperature: Not determined.pH-value: Not applicable.

· Viscosity:

Kinematic: Not applicable.Dynamic: Not applicable.

· Solubility in / Miscibility with

· Water:

Partition coefficient (n-octanol/water):
 Vapor pressure:
 Not determined.
 Not applicable.

· Vapor pressure:

· Relative density at 25 °C (77 °F): >1.6

Vapor density (air=1):Particle characteristicsNot determined.

· Other information

Important information on protection of health

and environment, and on safety.

· Ignition temperature:
· Danger of explosion:

· Solvent content:

· Organic solvents:
· Solids content:

Product is not selfigniting.

Product does not present an explosion hazard.

Not applicable

Insoluble.

Not available 100.0 % Not applicable.

10 Stability and reactivity

· Evaporation rate

- · 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.

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- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid Avoid ignition sources, open flames, and incompatible substances.
- · Incompatible materials:

Strong acids Strong oxidizing agents epoxides ketones

· Hazardous decomposition products:

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

11 Toxicological information

- · Information on toxicological effects
 - · Acute toxicity:
 - · Primary irritant effect:
 - · on the skin: Irritant to skin and mucous membranes.
 - on the eye: 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:

eye damage, pain

redness, serious irritation

Skin:

rash, allergic contact dermatitis

redness, irritation

dry skin

· Inhalation:

cough

irritation of the respiratory tract

· Swallowed:

Low toxicity:

irritation to the mouth, throat, esophagus, and stomach

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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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· 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.

- · 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.

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Where possible retain label warnings and SDS and observe all notices pertaining to the product.

| 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. (aluminium nitride) |
| · 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. (aluminium nitride) |
| ·IATA | NOT REGULATED by Air IATA Special Provision A197 for sizes 5kg or less. Environmentally hazardous substance, solid, n.o.s. (aluminium nitride) |
| · Transport hazard class(es) | |
| · DOT/TDG, IMDG | |
| | |
| · Class · Label | 9 Miscellaneous dangerous substances and articles 9 |
| ·IATA | |
| 1 1 1 1 1 1 1 1 1 1 | |
| · Class · Label | 9 Miscellaneous dangerous substances and articles9 |
| · Packing group · DOT/TDG, IMDG, IATA | III |
| · Environmental hazards: · Marine pollutant: · Special marking (IATA): | MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS Symbol (fish and tree) |

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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)

Excepted quantities (EQ)

5 kg

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· Special precautions for user

Not applicable. 90

Hazard identification number (Kemler code):

· EMS Number:

· Stowage Category

F-A,S-F

SW23 When transported in BK3 bulk container, see Stowage Code

7.6.2.12 and 7.7.3.9.

· UN "Model Regulation":

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE.

SOLID, N.O.S. (ALUMINIUM NITRIDE), 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.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

24304-00-5 aluminium nitride

ACTIVE

68082-29-1 fatty acids, C18-unsatd., dimers, polymerswith tall-oil fatty acids andtriethylenetetramine

ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

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· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· 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.

· Carcinogenic categories

· TLV (Threshold Limit Value)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Canadian substance listings:

| · Canadian Domestic Substances List (DSL) | |
|--|---|
| | aluminium nitride |
| | fatty acids, C18-unsatd., dimers, polymerswith tall-oil fatty acids andtriethylenetetramine |
| 112945-52-5 amorphous fumed silica | |
| · 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%)

None of the ingredients is listed.

· 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.

- CA —



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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

· Version number of previous version: 1.00

· Date of preparation 04/28/2025

· 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)

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

* * Data compared to the previous version altered.