

# Safety Data Sheet



according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: August 15, 2019

## 1 Identification

- **Product identifier**
- **Trade name:** Thermalbond™ Part A
- **Other means of identification:**
  - 4949G (25 g / 0.88 oz)
  - 4951G (100 g / 3.5 oz)
  - 4952G (200 g / 7 oz)
  - 4953G (1474 g / 52 oz)
- **Recommended use and restriction on use**
- **Recommended use:** Epoxy resin
- **Restrictions on use:** For professional use only.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
  - Aavid, Thermal Division of Boyd Corporation
  - 1 Aavid Circle
  - Laconia, NH 03246
  - USA
  - (603) 528-3400
  - customerservice@boydcorp.com
- **Emergency telephone number:**
  - ChemTel Inc.
  - (800)255-3924 (North America)
  - +1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Eye Irrit. 2A H319 Causes serious eye irritation.
  - Skin Sens. 1 H317 May cause an allergic skin reaction.
  - Muta. 2 H341 Suspected of causing genetic defects.
  - Carc. 2 H351 Suspected of causing cancer.
- **Label elements**
- **GHS label elements**
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**
  -  
  - GHS07 GHS08
- **Signal word:** Warning
- **Hazard statements:**
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation.
  - H317 May cause an allergic skin reaction.
  - H341 Suspected of causing genetic defects.

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H351 Suspected of causing cancer.

· **Precautionary statements:**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing mist, vapors, or spray.
- P264 Wash thoroughly after handling.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection.
- P302+P352 If on skin: Wash with plenty of soap and 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.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

25068-38-6	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	<25%
13463-67-7	Titanium dioxide	1-5%
2426-08-6	butyl glycidyl ether ⚠ Flam. Liq. 3, H226 ⚠ Muta. 2, H341; Carc. 2, H351 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	1-5%
1308-38-9	Chromium (III) oxide	0.1-0.9%

· **Additional information:**

For the wording of the listed Hazard Statements, refer to section 16.

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

## 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:**

Respiration of particulates is unlikely during normal usage.

Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

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- **After eye contact:**  
 Remove contact lenses if worn.  
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
 Rinse out mouth and then drink plenty of water.  
 Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**  
 Allergic reactions  
 Irritant to skin and mucous membranes.  
 Causes eye irritation.  
 Gastric or intestinal disorders when ingested.  
 Nausea
- **Danger:**  
 Suspected of causing genetic defects.  
 Suspected of causing cancer.  
 Suspected of causing cancer.
- **Indication of any immediate medical attention and special treatment needed:**  
 Treat skin and mucous membrane with antihistamine and corticoid preparations.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
 Foam  
 Fire-extinguishing powder  
 Gaseous extinguishing agents  
 Carbon dioxide  
 Water fog / haze
- **For safety reasons unsuitable extinguishing agents:** Water stream.
- **Special hazards arising from the substance or mixture**  
 Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
 Wear self-contained respiratory protective device.  
 Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
 Wear protective equipment. Keep unprotected persons away.  
 Ensure adequate ventilation.
- **Environmental precautions**  
 Do not allow product to reach sewage system or any water course.  
 Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up**  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Send for recovery or disposal in suitable receptacles.
- **Reference to other sections**

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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

- **Handling**
- **Precautions for safe handling:**  
 Avoid splashes or spray in enclosed areas.  
 Ensure good ventilation/exhaustion at the workplace.  
 Avoid contact with the eyes and skin.  
 Open and handle receptacle with care.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**  
 Use only receptacles specifically permitted for this substance/product.  
 Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**

### 2426-08-6 butyl glycidyl ether

PEL (USA)	Long-term value: 270 mg/m <sup>3</sup> , 50 ppm
REL (USA)	Ceiling limit value: 30 mg/m <sup>3</sup> , 5.6 ppm *15-min
TLV (USA)	Long-term value: 16 mg/m <sup>3</sup> , 3 ppm Skin; DSEN
EL (Canada)	Long-term value: 3 ppm Skin; S(D); R
EV (Canada)	Long-term value: 3 ppm Skin
LMPE (Mexico)	Long-term value: 3 ppm PIEL, SEN

### 13463-67-7 Titanium dioxide

PEL (USA)	Long-term value: 15* mg/m <sup>3</sup> *total dust
REL (USA)	See Pocket Guide App. A
TLV (USA)	Long-term value: 10 mg/m <sup>3</sup>
EL (Canada)	Long-term value: 10* 3** mg/m <sup>3</sup> *total dust;**respirable fraction; IARC 2B
EV (Canada)	Long-term value: 10 mg/m <sup>3</sup>

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LMPE (Mexico)	total dust Long-term value: 10 mg/m <sup>3</sup> A4
<b>1308-38-9 Chromium (III) oxide</b>	
PEL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Cr
REL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Cr; See Pocket Guide App. C
TLV (USA)	Long-term value: 0.003 mg/m <sup>3</sup> as Cr(III);inhalable; soluble comp.: DSEN;RSEN
EL (Canada)	Long-term value: 0.5 mg/m <sup>3</sup> as Cr; S(D); water soluble only: S(R)
LMPE (Mexico)	Long-term value: 0.5 mg/m <sup>3</sup> A4

· **Exposure controls**

· **General protective and hygienic measures:**

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.
- Pregnant women should strictly avoid inhalation or skin contact.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:**

- Use suitable respiratory protective device in case of insufficient ventilation.
- For spills, respiratory protection may be advisable.
- Use respiratory protection when grinding or cutting material.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:**



Safety glasses

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**

No relevant information available.

· **Risk management measures** No relevant information available.

### 9 Physical and chemical properties

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· **Information on basic physical and chemical properties**

· **Appearance:**

· **Form:** Viscous liquid.

· **Color:** Green

· **Odor:** Mild

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** >93 °C (>199.4 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Oxidizing properties:** Non-oxidizing.

· **Vapor pressure:** Not determined.

· **Density:**

· **Relative density at 25 °C (77 °F):** 2.36

· **Vapor density:** Not determined.

· **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity**

· **Dynamic at 25 °C (77 °F):** 500000 cP

· **Kinematic:** Not determined.

· **Other information** No relevant information available.

### 10 Stability and reactivity

· **Reactivity:** No relevant information available.

· **Chemical stability:**

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

· **Possibility of hazardous reactions**

Reacts with amines.

Reacts with catalysts.

Reacts with acids, alkalis and oxidizing agents.

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Toxic fumes may be released if heated above the decomposition point.

- **Conditions to avoid** Excessive heat.
- **Incompatible materials** Oxidizers
- **Hazardous decomposition products** Carbon monoxide and carbon dioxide

## 11 Toxicological information

· **Information on toxicological effects**

- **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**

**25068-38-6 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane**

Oral	LD50	>2000 mg/kg (rat, female)
Dermal	LD50	>2000 mg/kg (rat)

**2426-08-6 butyl glycidyl ether**

Oral	LD50	2050 mg/kg (rat)
Dermal	LD50	2520 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.

· **IARC (International Agency for Research on Cancer):**

Reference to titanium dioxide is based on unbound respirable particles and is not applicable to the product as supplied.

13463-67-7	Titanium dioxide	2B
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· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Germ cell mutagenicity:** Suspected of causing genetic defects.

- **Carcinogenicity:** Suspected of causing cancer.

- **Reproductive toxicity:** 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.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity**

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Harmful to aquatic life with long lasting effects.

**25068-38-6 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane**

EC50	2.7 mg/kg (daphnia) (48hr)
LC50	1.2 mg/l (Oncorhynchus mykiss) (96hr)
	2.4 mg/l (zebra fish) (96hr)

- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **Other adverse effects** No relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

- **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**

- DOT, ADR/RID/ADN, IMDG, IATA
- Not regulated.

- **UN proper shipping name**

- DOT
- Not regulated.

- ADR/RID/ADN, IMDG, IATA
- Not regulated.

- **Transport hazard class(es)**

- DOT, ADR/RID/ADN, IMDG, IATA

- Class
- Not regulated.

- **Packing group**

- DOT, ADR/RID/ADN, IMDG, IATA
- Not regulated.

- **Environmental hazards**

- **Marine pollutant:**
- No

- **Special precautions for user**

Not applicable.

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

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Reference to titanium dioxide is based on unbound respirable particles and is not applicable to the product as supplied.

13463-67-7	Titanium dioxide
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· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

Reference to chemical component(s) listed below are based on unbound respirable particles and are not generally applicable to product as supplied.

13463-67-7	Titanium dioxide	2B
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· **Canadian Domestic Substances List (DSL):**

All ingredients are listed or exempt.

## 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.

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· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
OSHA: Occupational Safety & Health Administration  
Flam. Liq. 3: Flammable liquids – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Skin Sens. 1: Skin sensitisation – Category 1  
Muta. 2: Germ cell mutagenicity – Category 2  
Carc. 2: Carcinogenicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))  
Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))  
Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))  
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6  
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
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