

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name: 5056
Product Code(s): 5056A, E
Synonyms: Epoxy acrylate oligomer blend for energy-curable coatings
REACH Registration Number: No data available

1.2 Relevant identified uses of the substance or mixture and uses advised against

General Use: Energy-curable coatings
Uses advised against: None known

1.3 Details of the supplier and of the safety data sheet

Manufacturer
 Coatings & Adhesives Corporation
 1901 Poplar St. NE
 Leland, NC 28451 USA
 +1-910-371-3184

1.4 Emergency telephone number: Chemtrec, +1-800-424-9300

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Classification in accordance with 28 CFR 1910 (OSHA HCS)
 Skin Sensitization - Category 1 [H317]
 Eye Irritation - Category 2A [H319]
 Specific Target Organ Toxicity, Single Exposure - Category 3 (STOT SE 3) [H335]
 Specific Target Organ Toxicity, Repeated Exposure - Category 2 [H373]
 Aquatic Chronic - Category 3 [H412]

2.2 Label

Elements Hazard
Symbol(s):



Signal Word:

GHS07 GHS09

Hazard Statement(s):

Warning
 H317 - May cause an allergic skin reaction
 H320 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H373 - May cause damage to organs through prolonged or repeated exposure
 H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements:
[Prevention]

P261 - Avoid breathing vapors and fumes.
 P264 - Wash hands and other skin areas exposed to material thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P272 - Contaminated work clothing should not be allowed out of the workplace.
 P273 - Avoid release to the environment.

[Response]

P280 - Wear protective gloves, protective clothing and eye protection.
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
 P312 - Call a POISON CENTER or doctor if you feel unwell.
 P321 - Specific treatment: Refer to product label and Section 4 of this SDS. Seek medical advice as needed.
 P333 + P313 - If skin irritation or rash occurs: Get medical attention.
 P337 + P313 - If eye irritation persists: Get medical attention.
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

[Storage]

P363 - Wash contaminated clothing reuse.
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.

[Disposal]

P501 - Dispose of contents in accordance with national and local regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical characterization (preparation)

| % by Weight | Ingredient | CAS Number | EC Number | Index Number | EC Classification |
|-------------|--------------------------------|------------|-----------|--------------|-------------------------------|
| 10 - 50 | Bisphenol A Epoxy Diacrylate | 55818-57-0 | 500-130-2 | ----- | ----- |
| 10 - 50 | Tripropylene Glycol Diacrylate | 42978-66-5 | 256-032-2 | 607-249-00-X | Xi, R36/37/38; R43; N, R51/53 |
| 10 - 50 | Trimethylolpropane Triacrylate | 15625-89-5 | 239-701-3 | 607-111-00-9 | Xi, R36/38; R43 |
| 2 - 25 | Benzophenone | 119-61-9 | 204-337-6 | ----- | ----- |
| 0.5 - 8 | Triethanolamine | 102-71-6 | 203-049-8 | ----- | ----- |
| 0.5 - 8 | N-Methyldiethanolamine | 105-59-9 | 203-312-7 | 603-079-00-5 | Xi, R36; R52; R24 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product vapor or fumes causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting upper and lower lids. Do not rub eyes. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. Obtain immediate medical attention, preferably from an ophthalmologist.

Skin: Remove contaminated clothing. Flush skin with lukewarm water for 15 minutes. Wash affected area with soap and water. Thoroughly clean contaminated clothing and shoes before reuse. If irritation persists or if rash develops, seek medical advice.

Ingestion: Rinse mouth with water if victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration of material into the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes serious eye irritation with redness, itching, swelling, tearing and pain. Vapor and fumes from material may cause eye irritation.

Skin: May cause skin irritation with localized redness and itching. May cause sensitization. Persons previously sensitized can experience allergic skin reactions with redness, itching, swelling and rash.

Inhalation: Vapor or fumes may cause irritation of the respiratory tract. May cause allergic reaction with asthma-like symptoms.

Ingestion: May cause gastrointestinal irritation with nausea, abdominal pain, vomiting and diarrhea. May be harmful if swallowed. Chronic ingestion may cause liver and bone marrow damage.

Chronic: Pre-existing disorders of the skin and respiratory system may be aggravated by exposure to this product. Chronic exposure may cause headache, drowsiness, nausea and weakness. May cause liver and kidney damage. The severity of effects depends on the extent of exposure. Prolonged and repeated exposure may result in cross-sensitization with other acrylates and methacrylates. Benzophenone is a possible human carcinogen. Refer to Section 11.2.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel: Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Use extinguishing media suitable for surrounding fire.

Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. Polymerization is exothermic and can degenerate into an uncontrolled reaction. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: Material does not present an explosion hazard.

5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control runoff water to prevent environmental contamination. Fire residues and contaminated extinguishing water must be disposed of in accordance with local regulations.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Remove all sources of ignition. Ventilate the area. Wear appropriate protective clothing and equipment designated in Section 8. Spilled material creates a slip hazard.

6.2 Environmental precautions

Avoid dispersal of spilled material and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Shovel or sweep up material and place in an approved container for disposal. Observe possible restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of undiluted waste via a licensed waste disposal contractor. Materials used for clean-up may also be considered hazardous waste. Wash contaminated area with soap and water.

6.4 Reference to other sections

For indications about waste treatment, see Section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8. Do not get in eyes or on skin or clothing. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear appropriate respiratory protection.

Advice on protection against fire and explosion

Polymerization is exothermic and can degenerate into an uncontrolled reaction. Not considered explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in cool, dry, well-ventilated storage areas. Keep from freezing. Transfer only to approved containers having correct labeling. Protect containers against physical damage. Keep containers tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not reuse empty containers as they may retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

| CAS Number | Ingredient | OSHA PEL | ACGIH TLV | NIOSH |
|------------|-----------------|----------|-------------------|-------|
| 102-71-6 | Triethanolamine | ----- | 5 mg/m3 TWA; Skin | ----- |

8.2 Exposure controls

Engineering Measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear protective goggles or safety glasses with unperforated side shields during use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166. It is recommended that contact lenses be removed before using this product. Do not handle lenses until all product has been cleaned from the fingertips, nails and cuticles. Residual material may remain on fingers for several days and transfer to lenses, causing severe eye irritation.

Hand Protection: Wear Nitrile rubber or Neoprene gloves or those recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Other protective equipment: Long sleeve shirts and trousers without cuffs; boots if the situation calls for them.

Respiratory Protection: None needed under ambient conditions with adequate local exhaust. Always use an approved respirator when vapors are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full -faced supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls: Do not empty into drains.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|-------------------------------|------------------------------|
| Appearance | Amber liquid |
| Odor | Characteristic, acrylic-like |
| Odor Threshold | No data available |
| Molecular Weight | Not applicable |
| Chemical Formula | Not applicable |
| pH | No data available |
| Freezing/Melting Point, Range | No data available |
| Initial Boiling Point | >100 °C (>212 °F) |
| Evaporation Rate | No data available |
| Flammability (solid, gas) | Not applicable |
| Flash Point | No data available |

| | |
|---|--------------------|
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Lower Explosive Limit (LEL) | No data available |
| Upper Explosive Limit (UEL) | No data available |
| Vapor Pressure | <1 (Air = 1) |
| Vapor Density | No data available |
| Specific Gravity | 1.200 - 1.300 |
| Viscosity | No data available |
| Solubility in Water | Negligible |
| Partition Coefficient: n-octanol/water | Not determined |
| Volatiles by Volume @ 21 °C | Data not available |

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Product can undergo hazardous, exothermic polymerization.

10.2 Chemical stability

Stable under recommended storage conditions, handling and use.

10.3 Possibility of hazardous reactions

This material can undergo hazardous polymerization. Polymerization is exothermic and can degenerate into an uncontrolled reaction.

10.4 Conditions to avoid

This material polymerizes exothermically in the presence of heat, contamination, oxygen-free atmosphere, free radicals, peroxides and inhibitor depletion. DO NOT expose to sunlight.

10.5 Incompatible materials

Strong oxidizing agents, strong reducing agents, free radical generators, inert gas, oxygen scavengers, peroxides

10.6 Hazardous decomposition products

Thermal decomposition products include oxides of carbon, acrylates, nitrogen oxides, ammonia, acrid smoke and fumes.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

Expected to have low acute oral toxicity

Acute inhalation toxicity

Expected to have low acute inhalation toxicity

Acute dermal toxicity

Expected to have low acute dermal toxicity

Skin irritation

May cause skin irritation

Eye irritation

Causes eye irritation

Sensitization

May cause allergic skin reaction and respiratory sensitization

Genotoxicity in vitro

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

May cause damage to the liver and kidneys through prolonged or repeated exposure. May cause respiratory irritation.

Aspiration hazard

No data available

11.2 Further information

Benzophenone (CAS #119-61-9): IARC, Group 2B carcinogen - Possibly carcinogenic to humans. Not listed as a carcinogen by ACGIH, NTP or OSHA.

Triethanolamine (CAS #102-71-6): IARC, Group 3 carcinogen - Not classifiable as to its carcinogenicity to humans. Not listed as a carcinogen by ACGIH, NTP or OSHA.

No data is available regarding the mutagenicity or teratogenicity of this product in humans, nor is there any available data that indicated that it causes adverse developmental or fertility effects in humans.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bioaccumulation potential

Not expected to bioaccumulate

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Additional ecological information

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Non-contaminated, inhibited material is not a RCRA hazardous waste. However, contaminated material, soil, water, ink, cleaning solvents, etc. may be RCRA/OSHA hazardous waste due to the potential for internal heat generation (see 40 CFR 261 and 20 CFR 1910). It is the responsibility of the generator to determine at the time of disposal whether the material meets the criteria for hazardous waste. Dispose of in accordance with Federal, State and local regulations. Use registered transporters. Disposal options include land filling solids at permitted sites, fuel blending or incineration. This material contains an inhibitor (HQ, MEHQ, etc.) at <1%. The type and amount meets product specification for disposal.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

NOT REGULATED FOR TRANSPORT

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is not subject to TSCA 12(b) Export Notification.

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard, Chronic Health Hazard, Reactivity Hazard

SARA 313 Information: None of the components of this product exceed the threshold (de minimis) reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: None of the components of this product are subject to reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): None of the components of this product exceed the threshold (de minimis) reporting levels established by CERCLA.

Clean Air Act (CAA)

This product does not contain any substances listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

Clean Water Act (CWA)

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Benzophenone (CAS #119-61-9) is known to the State of California to cause cancer. WARNING! This product contains trace amounts of chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. These are impurities contained at <0.01%.

Other U.S. State Inventories

Bisphenol A Epoxy Diacrylate (CAS #55818-57-0) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: PA.

Triethanolamine (CAS #102-71-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: MA, MN, NJ, PA, WI.

Canada

WHMIS Hazard Symbol and Classification: None allocated

Canadian National Pollutant Release Inventory (NPRI): None of the components of this product are listed on the NPRI.

European Economic Community

Labeling (67/548/EEC or 1999/45/EC): None allocated

Risk Phrases: R36/37/38 - Irritating to eyes, respiratory system and skin.
R43 - May cause sensitization by skin contact.
R51/53 - Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety Phrases: S2 - Keep out of reach of children.
S24/25 - Avoid contact with skin and eyes.

WGK, Germany (Water danger/protection): 2

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

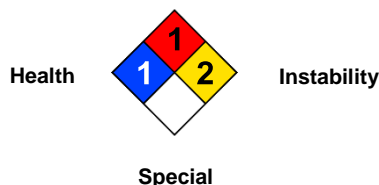
| | |
|---------------------|-----|
| Health | * 2 |
| Flammability | 1 |
| Physical Hazard | 2 |
| Personal Protection | B |

HMIS & NFPA Hazard Rating Legend

| | |
|---------------------------|--------------|
| * = Chronic Health Hazard | 2 = MODERATE |
| 0 = INSIGNIFICANT | 3 = HIGH |
| 1 = SLIGHT | 4 = EXTREME |

National Fire Protection Association (NFPA)

Flammability



Full Text of Risk (R) – Phrases Referenced in Section 3.

- R24** Toxic in contact with skin.
- R36** Irritating to eyes.
- R36/38** Irritating to eyes and skin.
- R52** Harmful to aquatic organisms.

The information herein is given in good faith and is believed to be accurate and correct; however, no warranty, expressed or implied, is made. Coatings & Adhesives Corporation assumes no responsibility for personal injury or property damage that may arise from the use of this material since the conditions of handling and use are beyond our control. It is the responsibility of the user to comply with all Federal, State and local laws and regulations regarding use of this product. Vendees or users assume all risks associated with the use of this material.

- Revision 3: Updated Section 15, 19 August 2015
- Revision 2: Updated to GHS SDS format, 06 July 2015
- Revision 1: October 2012
- Preparation Date: 21 May 2007