# Preformed Epoxy Resin Compounds

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024

## SECTION 1: Identification

### 1.1. Product identifier

Product name : F04 Black F15 Black
F05 Black F16 Black
F08 Black

Product form : Mixture

### 1.2. Other means of identification

No additional information available

### 1.3. Recommended use of the chemical and restrictions on use

Recommended use : Electrical/Electronic Encapsulant, Sealant, Adhesive

### 1.4. Supplier's details

MULTI-SEALS, INC.
540 North Main Street
Manchester, CT 06042
USA
Tel: 860/643-7188

### 1.5. Emergency phone number

Emergency number : 860-643-7188 (8:30am - 5:00pm EST)

## SECTION 2 Hazard Identification

### 2.1. Classification of the substance or mixture

**GHS US classification**

Serious eye damage/eye irritation, Category 2A : Causes serious eye irritation.
Skin sensitization, Category 1 : May cause an allergic skin reaction.

### 2.2. Label elements

**GHS US labeling**

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning
Hazard statements (GHS US) : May cause an allergic skin reaction
Causes serious eye irritation
Precautionary statements (GHS US) : Avoid breathing dust, fume, gas, mist, vapors, spray.
Wash hands, forearms and face thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection, face protection, and hearingprotection. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice or attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

### 2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

### 2.4. Hazards not otherwise classified

Other hazards which do not result in classification : Risk of thermal burns on contact with molten product.

### 2.5. Unknown acute toxicity

Not applicable

## SECTION 3 Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % |
|---|---|---|
| Bisphenol A diglycidyl ether-bisphenol A copolymer | CAS-No.: 25036-25-3 | 20 - 50 |
| Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol | CAS-No.: 29690-82-2[i] | 10 - 20 |
| Phenol-formaldehyde polymer | CAS-No.: 9003-35-4 | 5 - 11 |
| Benzenamine, 4,4'-sulfonylbis- | CAS-No.: 80-08-0[i] | 5 - 7 |

Comments : The concentrations listed represent actual ranges that result from batch variability.
[i] Only present in F04, F05

## SECTION 4 First aid measures

### 4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Not a normal route of exposure. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of Water. Take off contaminated clothing and wash it before reuse. Call a physician if irritation develops or persists. In case of contact with hot or molten product, get immediate medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of contact with hot or molten product, get immediate medical advice/attention.

First-aid measures after ingestion : Not a normal route of exposure. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

### 4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Not a normal route of exposure.

Symptoms/effects after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : Not a normal route of exposure. May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Powder, water spray, foam, carbon dioxide.

Unsuitable extinguishing media : Do not use water jet.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Nitrogen oxides. Irritating vapors.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

## SECTION 6 Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

**For non-emergency personnel**

No additional information available

**For emergency responders**

Environmental precautions : Prevent entry to sewers and public waters.

### 6.2. Methods and materials for containment and cleaning up

For containment : With molten spills, allow the material to solidify and cool. Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Vacuum or sweep material and place in a disposal container. Provide ventilation.

For further information refer to section 8: "Exposure controls/personal protection"

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Wash hands, forearms and face thoroughly after handling.

### 7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place.

Specific end uses : Not available.

## SECTION 8 Exposure controls/personal protection

### 8.1. Control parameters

**Exposure limit values of other components**

| Formaldehyde (50-00-0) | |
|---|---|
| **USA - OSHA - Occupational Exposure Limits** | |
| OSHA PEL TWA | 0.75 ppm |
| OSHA PEL STEL | 2 ppm (see 29 CFR 1910.1048) |
| Remark (OSHA) | Formaldehyde is subject to the standard 29 CFR 1910.1048, which may contain specific requirements for handling including protective equipment, regulated areas, monitoring and medical surveillance. The employer should review the standard and assure compliance with applicable requirements. |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment

**Hand protection:**

Wear suitable gloves resistant to chemical penetration. Consult glove manufacturer's product information on material suitability and material thickness.

**Eye protection:**

Wear eye/face protection

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

**Thermal hazard protection:**

Wear appropriate heat resistant protective clothing when working with molten product.

**Other information:**

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

## SECTION 9 Physical and chemical properties

### 9.1. Basic physical and chemical properties

| | | | |
|---|---|---|---|
| Physical state | : Solid | Vapor pressure | : No data available |
| Appearance | : film. | Relative vapor density at 20°C | : No data available |
| Color | : Black | Relative density | : No data available |
| Odor | : No data available | Solubility | : No data available |
| Odor threshold | : No data available | Partition coefficient n-octanol/water | : No data available |
| PH | : No data available | Auto-ignition temperature | : No data available |
| Melting point | : No data available | Decomposition temperature | : No data available |
| Freezing point | : No data available | Viscosity, kinematic | : No data available |
| Boiling point | : No data available | Explosion limits | : No data available |
| Flash point | : No data available | Particle characteristics | : No data available |
| Flammability (solid, gas) | : Not flammable | | |

| Phenol-formaldehyde polymer | |
|---|---|
| Boiling point | 229.3 °C Atm. press.: 968 hPa Decomposition: 'no' Remarks on result: 'other:' |
| Flash point | 96.3 °C Atm. press.: 969,6 hPa Remarks on result: 'other:' |
| Vapor pressure | 3.18 Pa Temp.: 25 °C Remarks on result: 'other:' |
| Particle characteristics | No data available |

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

## SECTION 10 Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Heat. Moisture. Incompatible materials.

### 10.5. Incompatible materials

Acids. Bases. Strong oxidizing agent.

### 10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Nitrogen oxides.

## SECTION 11 Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| LD50 oral rat | > 5 g/kg (Source: ECHA) |
| LD50 dermal rat | > 2000 mg/kg (Source: ECHA_API) |
| LC50 inhalation rat | > 5 mg/l air Animal: rat, Guideline: other:, Remarks on results: other: |

| Benzenamine, 4,4'-sulfonylbis- (80-08-0) | |
|---|---|
| LD50 oral rat | 1 g/kg (Source: NLM_CIP) |
| LD50 dermal rabbit | > 2000 mg/kg (Source: ECHA_API) |

Skin corrosion/irritation : Not classified

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| pH | 6 Temp.: 26,2 °C Concentration: 1 vol% Remarks on result: 'other:' |

Serious eye damage/irritation : Causes serious eye irritation.

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| pH | 6 Temp.: 26,2 °C Concentration: 1 vol% Remarks on result: 'other:' |

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

| Benzenamine, 4,4'-sulfonylbis- (80-08-0) | |
|---|---|
| IARC group | 3 - Not classifiable |
| National Toxicology Program (NTP) Status | Evidence of Carcinogenicity |

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| NOAEL (oral,rat,90 days) | 1000 mg/kg body weight Animal: rat, Guideline: other: |

Aspiration hazard : Not classified

| Flexible Adhesive Systems | |
|---|---|
| Viscosity, kinematic | No data available |

| Bisphenol A diglycidyl ether-bisphenol A copolymer (25036-25-3) | |
|---|---|
| Viscosity, kinematic | No data available |

| Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol (29690-82-2) | |
|---|---|
| Viscosity, kinematic | No data available |

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| Viscosity, kinematic | No data available |

| Benzenamine, 4,4'-sulfonylbis- (80-08-0) | |
|---|---|
| Viscosity, kinematic | No data available |

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Not a normal route of exposure.

Symptoms/effects after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : Not a normal route of exposure. May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

## SECTION 12 Ecological information

### 12.1. Ecotoxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| EC50 - Crustacea [1] | 172 mg/l Test organisms (species): Daphnia pulex |

| Benzenamine, 4,4'-sulfonylbis- (80-08-0) | |
|---|---|
| LC50 - Fish [1] | > 100 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static] Source: ECHA) |

### 12.2. Persistence and degradability

| Flexible Adhesive Systems | |
|---|---|
| Persistence and degradability | Not established. |

| Bisphenol A diglycidyl ether-bisphenol A copolymer (25036-25-3) | |
|---|---|
| Persistence and degradability | Rapidly degradable |

| Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol (29690-82-2) | |
|---|---|
| Persistence and degradability | Rapidly degradable |

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| Persistence and degradability | Rapidly degradable |

| Benzenamine, 4,4'-sulfonylbis- (80-08-0) | |
|---|---|
| Persistence and degradability | Rapidly degradable |

### 12.3. Bioaccumulative potential

| Flexible Adhesive Systems | |
|---|---|
| Bioaccumulative potential | Not established. |

| Phenol-formaldehyde polymer (9003-35-4) | |
|---|---|
| Partition coefficient n-octanol/water | 3.564 (at 25 °C (at pH 4.6) |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

Other information : No other effects known.

## SECTION 13 Disposal considerations

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## SECTION 14 Transport information

In accordance with DOT

### 14.1. UN number

UN-No. (DOT) : Not applicable

### 14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Not applicable

### 14.3. Transport hazard class(es)

**DOT**

Transport hazard class(es) (DOT) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Transport in bulk

Not applicable

### 14.7. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

## SECTION 15 Regulatory information

### 15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

### 15.2. International regulations

No additional information available

### 15.3. State regulations

**WARNING:** This product can expose you to 2-Methylimidazole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

## SECTION 16: Other information

Date of issue : 04/05/2010

Other information : Rev. E: 04/02/25 Update format to Hazard Communication Standard (CFR29 1910.1200) HazCom 2024. Addition of F16 Black

Prepared by: Tyler Brush

*Disclosure: Any ingredient claimed as a trade secret will be disclosed in accordance with CFR 29 1910.1200 (i). Known to be present only as a trace impurity in the finished product: NONE See Section 8 of this SDS for any noted exposure limits for these compounds. This Safety Data Sheet (SDS) has been prepared in compliance with the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200 The listed components are considered to be hazardous under that standard.*

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