SAFETY DATA SHEET

1. Identification

Product identifier: Insulcast 961 FR Black - Part A

Other means of identification

SKU#: IE189R

Recommended use: Not available.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name: ITW Performance Polymers
Address: 130 Commerce Drive
Montgomeryville, PA 18936
United States

Telephone: Customer Service 215-855-8450
Website: www.itwperformancepolymers.com

Emergency phone number

CHEMTREC 800-424-9300
International 703-527-3887

2. Hazard(s) identification

Physical hazards

Flammable liquids

Category 4

Health hazards

Acute toxicity, oral

Category 4

Acute toxicity, dermal

Category 4

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2

Sensitization, skin

Category 1

Environmental hazards

Hazardous to the aquatic environment, long-term hazard

Category 2

OSHA defined hazards

Not classified.

Label elements

Signal word

Warning

Hazard statement

Combustible liquid. Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Keep away from flames and hot surfaces-No smoking. Avoid breathing mist/vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing. Wear protective gloves/eye protection/face protection.

Response

If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)  
None known.

Supplemental information  
90.82% of the mixture consists of component(s) of unknown acute oral toxicity. 99.05% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 25.06% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy Resin:--reaction Product Of Bisphenol A And Epichlorohydrin (refer To Epichlorohydrin)</td>
<td></td>
<td>25068-38-6</td>
<td>30 - 60</td>
</tr>
<tr>
<td>Glass, Oxide</td>
<td></td>
<td>65997-17-3</td>
<td>10 - 30</td>
</tr>
<tr>
<td>BUTYL GLYCIDYL ETHER</td>
<td></td>
<td>2426-08-6</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Oxirane, Mono[(c12-14-alkyloxy)methyl] Derivatives [alkyl (c12-14) Glycidyl Ether]</td>
<td></td>
<td>68609-97-2</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Carbon Black</td>
<td></td>
<td>1333-86-4</td>
<td>0.1 - 1</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td>7 - 13</td>
<td></td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation  
Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact  
Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact  
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion  
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Most important symptoms/effects, acute and delayed  
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Indication of immediate medical attention and special treatment needed  
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media  
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media  
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical  
The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters  
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions  
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods  
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards  
Combustible liquid.

Material name: Insulcast 961 FR Black - Part A
IE189R  Version #: 04  Revision date: 07-01-2018  Issue date: 06-16-2014  SDS US 2 / 9
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions
Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Keep away from open flames, hot surfaces and sources of ignition. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Components

<table>
<thead>
<tr>
<th>Value</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>270 mg/m3</td>
<td>BUTYL GLYCIDYL ETHER</td>
<td>PEL</td>
<td></td>
</tr>
<tr>
<td>50 ppm</td>
<td>Carbon Black (CAS 1333-86-4)</td>
<td>PEL</td>
<td>3.5 mg/m3</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values Components

<table>
<thead>
<tr>
<th>Value</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 ppm</td>
<td>BUTYL GLYCIDYL ETHER (CAS 2426-08-6)</td>
<td>TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 mg/m3</td>
<td>Carbon Black (CAS 1333-86-4)</td>
<td>TWA</td>
<td></td>
<td>Inhalable fraction.</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards Components

<table>
<thead>
<tr>
<th>Value</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 mg/m3</td>
<td>BUTYL GLYCIDYL ETHER (CAS 2426-08-6)</td>
<td>Ceiling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.6 ppm</td>
<td>Carbon Black (CAS 1333-86-4)</td>
<td>TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1 mg/m3</td>
<td>Glass, Oxide (CAS 65997-17-3)</td>
<td>TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 fibers/cm3</td>
<td>Glass, Oxide (CAS 65997-17-3)</td>
<td>TWA</td>
<td></td>
<td>Fibrous dust.</td>
</tr>
</tbody>
</table>
US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3 fibers/cm³</td>
<td>Fiber.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ fibers</td>
<td>total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ Fiber</td>
<td>total</td>
</tr>
</tbody>
</table>

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

**US ACGIH Threshold Limit Values: Skin designation**

BUTYL GLYCIDYL ETHER (CAS 2426-08-6) Can be absorbed through the skin.

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Face shield is recommended. Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves.

**Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

**9. Physical and chemical properties**

**Appearance**

Liquid.

**Physical state**

Liquid.

**Form**

Liquid.

**Color**

Black.

**Odor**

Slight.

**Odor threshold**

Not available.

**pH**

Not available.

**Melting point/freezing point**

Not available.

**Initial boiling point and boiling range**

325 °F (162.78 °C)

**Flash point**

164.0 °F (73.3 °C)

**Evaporation rate**

Not available.

**Flammability (solid, gas)**

Not applicable.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)**

Not available.

**Flammability limit - upper (%)**

Not available.

**Explosive limit - lower (%)**

Not available.

**Explosive limit - upper (%)**

Not available.

**Vapor pressure**

3 mm Hg

**Vapor density**

Not available.

**Relative density**

Not available.
Solubility(ies)

Solubility (water)
Not available.

Partition coefficient
(n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

Viscosity
Not available.

Other information
Density
6.03 lb/gal

Explosive properties
Not explosive.

Flammability class
Combustible IIIA estimated

Oxidizing properties
Not oxidizing.

Specific gravity
1.08

VOC
0

10. Stability and reactivity

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Prolonged inhalation may be harmful.

Skin contact
Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

Eye contact
Causes serious eye irritation.

Ingestion
Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects
Acute toxicity
Harmful in contact with skin. Harmful if swallowed.

Components

<table>
<thead>
<tr>
<th>BUTYL GLYCIDYL ETHER (CAS 2426-08-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute</strong></td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>LD50</td>
</tr>
<tr>
<td>Rabbit</td>
</tr>
<tr>
<td>0.788 g/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
</tr>
<tr>
<td>LC50</td>
</tr>
<tr>
<td>Rat</td>
</tr>
<tr>
<td>&gt; 670 mg/l, 8 Hours</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
</tr>
<tr>
<td>LD50</td>
</tr>
<tr>
<td>Rat</td>
</tr>
<tr>
<td>2.05 g/kg</td>
</tr>
</tbody>
</table>

| Carbon Black (CAS 1333-86-4)         |
| **Acute**                            |
| **Oral**                             |
| LD50                                 |
| Rat                                  |
| > 8000 mg/kg                         |

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.
Respiratory or skin sensitization

ACGIH sensitization
N-BUTYL GLYCIDYL ETHER (BGE) (CAS 2426-08-6) Dermal sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity
Carbon Black (CAS 1333-86-4) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
BUTYL GLYCIDYL ETHER 0.63

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT Not regulated as dangerous goods.

IATA

UN number UN3082
UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin: reaction Product Of Bisphenol A And Epichlorohydrin (refer To Epichlorohydrin))

Transport hazard class(es)

Class 9
Subsidiary risk -
Packing group: III
Environmental hazards: Yes
ERG Code: 9L
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Other information:
- Passenger and cargo aircraft: Allowed with restrictions.
- Cargo aircraft only: Allowed with restrictions.

IMDG
- UN number: UN3082
- UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin:--reaction Product Of Bisphenol A And Epichlorohydrin (refer To Epichlorohydrin)), MARINE POLLUTANT
- Transport hazard class(es):
  - Class: 9
  - Subsidiary risk: -
  - Packing group: III
- Environmental hazards: Yes
- Marine pollutant: Yes
- EmS: F-A, S-F
- Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not established.

General information: IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations:
- This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
  - TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
    - Not regulated.
  - CERCLA Hazardous Substance List (40 CFR 302.4)
    - Not listed.
  - SARA 304 Emergency release notification
    - Not regulated.
    - Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical

\[\text{Classified hazard categories}\]
- Flammable (gases, aerosols, liquids, or solids)
- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Respiratory or skin sensitization

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

California Proposition 65

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

**California Proposition 65 - CRT: Listed date/Carcinogenic substance**
- Carbon Black (CAS 1333-86-4) Listed: February 21, 2003
- Crystalline SiO2 (Quartz) (CAS 14808-60-7) Listed: October 1, 1988

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**
- Carbon Black (CAS 1333-86-4)
- Glass, Oxide (CAS 65997-17-3)

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
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<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*"A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).*

16. Other information, including date of preparation or last revision

| Issue date | 06-16-2014 |
| Revision date | 07-01-2018 |
| Version # | 04 |
HMIS® ratings

- Health: 2
- Flammability: 2
- Physical hazard: 0
- Personal protection: B

NFPA ratings

- Health: 2
- Flammability: 2
- Instability: 0

Disclaimer

ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.