1. Identification

Product identifier: PhillyClad 5066-A Hardener

Other means of identification

SKU#: DM001H

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

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: Not classified.

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, acute hazard: Category 3
Hazardous to the aquatic environment, long-term hazard: Category 3

OSHA defined hazards: Not classified.

Label elements

Signal word: Warning

Hazard statement

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

Precautionary statement

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray. 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 eye protection/face protection. Wear protective gloves/protective clothing.

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.

Storage

Store away from incompatible materials.
Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
56.41% of the mixture consists of component(s) of unknown acute inhalation toxicity. 95.27% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 95.27% 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>Fatty Acids, C18-unsatd., Dimers, Oligomeric Reaction Products With Tall-oil</td>
<td>Fatty Acids And Triethylenetetramine</td>
<td>68082-29-1</td>
<td>30 - 60</td>
</tr>
<tr>
<td>3,6,9-triazaundecamethylenediamine</td>
<td>112-57-2</td>
<td>3 - 7</td>
<td></td>
</tr>
<tr>
<td>Silicon Dioxide</td>
<td>112945-52-5</td>
<td>1 - 5</td>
<td></td>
</tr>
<tr>
<td>N,n-dimethyl-1,3-diaminopropane</td>
<td>109-55-7</td>
<td>1 - 2.5</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>1 - 2.5</td>
<td></td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>1333-86-4</td>
<td>0.1 - 1</td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels                                     30 - 60

*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 Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed 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.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information 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 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 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 No unusual fire or explosion hazards noted.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. 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

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: 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

Do not taste or swallow. Avoid contact with eyes, skin, and clothing. 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

Store in tightly closed container. 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)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON BLACK (CAS 1333-86-4)</td>
<td>PEL</td>
<td>3.5 mg/m3</td>
</tr>
<tr>
<td>Phenol (CAS 108-95-2)</td>
<td>PEL</td>
<td>19 mg/m3</td>
</tr>
</tbody>
</table>

US. OSHA Table Z-3 (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Dioxide (CAS 112945-52-5)</td>
<td>TWA</td>
<td>0.8 mg/m3</td>
</tr>
</tbody>
</table>

20 mppcf

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON BLACK (CAS 1333-86-4)</td>
<td>TWA</td>
<td>3 mg/m3</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>Phenol (CAS 108-95-2)</td>
<td>TWA</td>
<td>5 ppm</td>
<td></td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON BLACK (CAS 1333-86-4)</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
</tr>
<tr>
<td>Phenol (CAS 108-95-2)</td>
<td>Ceiling</td>
<td>60 mg/m3</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>19 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 ppm</td>
</tr>
</tbody>
</table>
**US. NIOSH: Pocket Guide to Chemical Hazards**  
Components: Silicon Dioxide (CAS 112945-52-5)  
Type: TWA  
Value: 6 mg/m³

**US. Workplace Environmental Exposure Level (WEEL) Guides**  
Components: 3,6,9-triazaundecamethylenediamine (CAS 112-57-2)  
Type: TWA  
Value: 5 mg/m³  
Form: Aerosol.  
1 ppm  
Form: Aerosol.

**Biological limit values**  
**ACGIH Biological Exposure Indices**  
<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol (CAS 108-95-2)</td>
<td>250 mg/g</td>
<td>Phenol with hydrolysis</td>
<td>Creatinine in urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

**Exposure guidelines**  
Occupational Exposure Limits are not relevant to the current physical form of the product.

**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.

**Appropriate engineering controls**

**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**  
In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**  
Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**  
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**  
Paste.

**Physical state**  
Not available.

**Form**  
Paste.

**Color**  
Black.

**Odor**  
Mild. Amine-like.

**Odor threshold**  
Not available.
pH: Not available.
Melting point/freezing point: Not available.
Initial boiling point and boiling range: > 450 °F (> 232.22 °C)
Flash point: > 200.0 °F (> 93.3 °C)
Evaporation rate: < 1 BuAc
Flammability (solid, gas): Not available.
Upper/lower flammability or explosive limits
  Explosive limit - lower (%): Not available.
  Explosive limit - upper (%): Not available.
Vapor pressure: < 0.01 mm Hg
Vapor density: > 1
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: 11.07 lb/gal
  Explosive properties: Not explosive.
  Flammability class: Combustible IIIB estimated
  Oxidizing properties: Not oxidizing.
  Specific gravity: 1.33

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: No adverse effects due to inhalation are expected.
  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.
<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,6,9-triazaundecamethylenediamine (CAS 112-57-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rabbit</td>
<td>0.66 g/kg</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>2.1 g/kg</td>
</tr>
<tr>
<td><strong>CARBON BLACK (CAS 1333-86-4)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>&gt; 8000 mg/kg</td>
</tr>
<tr>
<td><strong>Phenol (CAS 108-95-2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rat</td>
<td>669 mg/kg</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>317 mg/kg</td>
</tr>
<tr>
<td><strong>Silicon Dioxide (CAS 112945-52-5)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>&gt; 22500 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin 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**

- **IARC Monographs. Overall Evaluation of Carcinogenicity**
  - CARBON BLACK (CAS 1333-86-4) 2B Possibly carcinogenic to humans.
  - Phenol (CAS 108-95-2) 3 Not classifiable as to carcinogenicity to humans.
  - Silicon Dioxide (CAS 112945-52-5) 3 Not classifiable as to carcinogenicity to humans.

  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 exposure may cause chronic effects.

12. **Ecological information**

**Ecotoxicity**

Harmful 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)**
  - 3,6,9-triazaundecamethylenediamine 1.503
  - Phenol 1.46
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. Incinerate the material under controlled conditions in an approved incinerator. 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: D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
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: Not regulated as dangerous goods.
IMDG: Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not established. Not applicable.

15. Regulatory information
US federal regulations: This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
SARA 304 Emergency release notification: Phenol (CAS 108-95-2) 1000 LBS
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration: Phenol (CAS 108-95-2) % 1.0
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance: Phenol (CAS 108-95-2) Listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA): SARA 302 Extremely hazardous substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable quantity (pounds)</th>
<th>Threshold planning quantity, lower value (pounds)</th>
<th>Threshold planning quantity, upper value (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>1000</td>
<td>500</td>
<td>10000</td>
</tr>
</tbody>
</table>

Classified hazard categories: Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization

Material name: PhillyClad 5066-A Hardener
DM001H Version #: 03 Revision date: 06-12-2018 Issue date: 10-15-2014
SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>1 - 2.5</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Phenol (CAS 108-95-2)

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

Safe Drinking Water Act (SDWA)

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Phenol (CAS 108-95-2) Low priority

US state regulations

California Proposition 65

WARNING: This product can expose you to 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

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))
CARBON BLACK (CAS 1333-86-4)
Phenol (CAS 108-95-2)

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>Yes</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>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<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>No</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>No</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 10-15-2014
Revision date 06-12-2018
Version # 03

HMIS® ratings
Health: 3
Flammability: 1
Physical hazard: 1
Personal protection: X

NFPA ratings
Health: 3
Flammability: 1
Instability: 1
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.