SAFETY DATA SHEET

1. Identification

Product identifier: DPA™

Other means of identification: None.

Recommended use: Dry Penetrating Agent

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name: CETCO, an MTI Company

Address: 2870 Forbs Avenue

Hoffman Estates, IL 60192

United States

Telephone: General Information 800 527-9948

Website: http://www.cetco.com/

E-mail: safetydata@mineraltech.com

Emergency phone number: Emergency 1.866.519.4752/1 760 476 3962

Americas 1.866.519.4752 (US, Canada, Mexico) 1 760 476 3962

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards

- Acute toxicity, oral: Category 4
- Acute toxicity, inhalation: Category 2
- Skin corrosion/irritation: Category 1
- Serious eye damage/eye irritation: Category 1
- Sensitization, skin: Category 1

Environmental hazards

- Hazardous to the aquatic environment, acute hazard: Category 2
- Hazardous to the aquatic environment, long-term hazard: Category 3

OSHA defined hazards: Not classified.

Label elements

Signal word: Danger

Hazard statement: Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention: 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/eye protection/face protection.

Response: If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor/. Specific treatment (see on this label). If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

27.01% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 27.01% 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>Sulfamic acid</td>
<td></td>
<td>5329-14-6</td>
<td>70 - &lt; 80</td>
</tr>
<tr>
<td>SODIUM DODECYLBENZENESULFONATE</td>
<td></td>
<td>25155-30-0</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td>20 - &lt; 30</td>
<td></td>
</tr>
</tbody>
</table>

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

Composition comments

For the full text of the R phrases mentioned in this Section, see Section 15. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First-aid measures

Inhalation

If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Get medical attention if irritation develops or persists. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse. Launder contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing.

Ingestion

Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause allergic skin reaction.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media


Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire fighting equipment/instructions

In the event of fire, cool tanks with water spray.

Specific methods

Cool containers exposed to flames with water until well after the fire is out.

General fire hazards

Not a fire hazard. 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. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. 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.
Methods and materials for containment and cleaning up

This product is miscible in water. Should not be released into the environment. Stop leak if you can do so without risk. Collect spillage. Dike the spilled material, where this is possible. Prevent product from entering drains. Following product recovery, flush area with water. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Do not flush into surface water or sanitary sewer system.

7. Handling and storage

Precautions for safe handling

Do not get this material in your eyes, on your skin, or on your clothing. Wash hands after handling and before eating. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not taste or swallow. Avoid contact with skin and eyes. Do not get this material on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Keep locked-up. Store in a cool, dry place out of direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep this material away from food, drink and animal feed. Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-3 (29 CFR 1910.1000)</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUSTS</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 mppcf</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

Biological limit values

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

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. Eye wash facilities and emergency shower must be available when handling this product. Local exhaust is suggested for use, where possible, in enclosed or confined spaces.

Individual protection measures, such as personal protective equipment

**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield. Wear safety glasses; chemical goggles (if splashing is possible).

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves.

**Other**

Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. Wear appropriate chemical resistant gloves. Use of butyl rubber or nitrile gloves is recommended

**Respiratory protection**

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

When using, do not eat, drink or smoke. When using do not eat or 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. Use good industrial hygiene practices in handling this material.

9. Physical and chemical properties

**Appearance**

Powder.

**Physical state**

Solid.

**Form**

Solid. powder

**Color**

Dark violet.
Odor threshold: Not available.

pH: 1

Melting point/freezing point: 552.94 °F (289.41 °C) estimated

Initial boiling point and boiling range: 2669 °F (1465 °C) estimated

Flash point: Not available.

Evaporation rate: > 1

Flammability (solid, gas): Not available.

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: 0.00001 hPa estimated

Vapor density: Not available.

Relative density: Not available.

Solubility(ies):
- Solubility (water): Complete
- Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity: Not available.

Other information:
- Density: 2.14 g/cm3 estimated
- Percent volatile: 0 % estimated
- Specific gravity: 2.14 estimated
- VOC: CARB

10. Stability and reactivity

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

Chemical stability: Stable at normal conditions.

Possibility of hazardous reactions: Will not occur. Hazardous polymerization does not occur.

Conditions to avoid: Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals. Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents. This product may react with reducing agents. Incompatible with bases. May react with strong bases or oxidizing agents.

Hazardous decomposition products: Upon decomposition, this product may yield sulfur dioxide, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure:
- Inhalation: May cause irritation to the respiratory system.
- Skin contact: Causes severe skin burns. May cause an allergic skin reaction.
- Eye contact: Causes serious eye damage.
- Ingestion: Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics:
- Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Information on toxicological effects

### Acute toxicity

Corrosive effects. Harmful if swallowed. May cause allergic skin reaction.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPA™</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Acute

- **Dermal**
  - LD50
    - Species: Rabbit
    - Test Results: 30930 mg/kg

#### Components

<table>
<thead>
<tr>
<th></th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM DODECYLBENZENESULFONATE (CAS 25155-30-0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Acute

- **Oral**
  - LD50
    - Species: Rat
    - Test Results: 438 mg/kg

- **Sulfamic acid (CAS 5329-14-6)**
  - **Acute**
    - **Oral**
      - LD50
        - Species: Rat
        - Test Results: 1450 mg/kg

* Estimates for product may be based on additional component data not shown.

#### Skin corrosion/irritation

Causes severe skin burns and eye damage.

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitization

- **Respiratory sensitization**: Not available.
- **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**: Not listed.
- **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 available.
- **Chronic effects**: Repeated or prolonged exposure may cause irritation of eyes and skin.

#### 12. Ecological information

### Ecotoxicity

Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

<table>
<thead>
<tr>
<th></th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM DODECYLBENZENESULFONATE (CAS 25155-30-0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Aquatic**
  - **Crustacea**
    - EC50
      - Species: Water flea (Ceriodaphnia dubia)
      - Test Results: 3.26 - 14.51 mg/l, 48 hours
  - **Fish**
    - LC50
      - Species: Fish
      - Test Results: 10.8 mg/L, 96 Hours
      - Rainbow trout, donaldson trout (Oncorhynchus mykiss)
      - Test Results: 3.2 - 5.6 mg/l, 96 hours
**Components Test Results Species Test Results**

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic acid (CAS 5329-14-6)</td>
<td>Fathead minnow (Pimephales promelas)</td>
<td>14.2 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>70.3 mg/L, 96 Hours</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability**

No data is available on the degradability of this product.

**Bioaccumulative potential**

No data available.

**Partition coefficient n-octanol / water (log Kow)**

SODIUM DODECYLBENZENESULFONATE 0.45

**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. This material and its container must be disposed of as hazardous waste. 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**

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

### 14. Transport information

**DOT**

- **UN number**: UN2967
- **UN proper shipping name**: Sulfamic acid
- **Transport hazard class(es)**
  - Class: 8
  - Subsidiary risk: -
  - Label(s): 8
- **Special precautions for user**: Read safety instructions, SDS and emergency procedures before handling.
- **Special provisions**: IB8, IP3, T1, TP33
- **Packaging exceptions**: 154
- **Packaging non bulk**: 213
- **Packaging bulk**: 240

**IATA**

- **UN number**: UN2967
- **UN proper shipping name**: Sulfamic acid
- **Transport hazard class(es)**
  - Class: 8
  - Subsidiary risk: -
  - Label(s): 8
- **Environmental hazards**: No.
- **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: UN2967
UN proper shipping name: Sulfamic acid
Transport hazard class(es):
  - Class: 8
  - Subsidiary risk: -
  - Label(s): 8
Packing group: III
Environmental hazards:
  - Marine pollutant: No.
EmS:
  - Special precautions for user: Not available.
  - Read safety instructions, SDS and emergency procedures before handling.
  - Not applicable.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT

IATA; IMDG

15. Regulatory information
US federal regulations:
  - OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.
  - 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.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
  - Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
  - SARA 302 Extremely hazardous substance
    - Not listed.
  - SARA 311/312 Hazardous chemical
    - No (Exempt)
  - 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
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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>Yes</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>Yes</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 10-November-2014
Revision date 13-August-2018
Version # 11

Further information
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

HMIS® ratings
Health: 3
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 4
Flammability: 0
Instability: 0
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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The manufacturer expressly does not make any representations, warranties, or guarantees as to its accuracy, reliability or completeness nor assumes any liability, for its use. It is the user's responsibility to verify the suitability and completeness of such information for each particular use.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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 in the sheet was written based on the best knowledge and experience currently available.

Revision information

Hazard(s) identification: Hazard statement
Hazard(s) identification: GHS Symbols
Accidental release measures: Personal precautions, protective equipment and emergency procedures
Exposure controls/personal protection: Respiratory protection
Regulatory information: California Proposition 65
GHS: Classification