

1. Identification

| | |
|---|--|
| Product identifier | CYCLOGEN ME |
| Other means of identification | |
| Product Code | 1951 |
| Recommended use | Asphalt Recycling Emulsion |
| Recommended restrictions | Follow the manufacturer's instructions. |
| Manufacturer/Importer/Supplier/Distributor information | |
| Manufacturer | |
| Manufacturer: | Tricor Refining, LLC. |
| Address: | P.O. Box 5877 Bakersfield, CA 93388 |
| 24-hour Telephone Number: | (661) 393-7110 |
| CHEMTREC: | 1-800-424-9300 (North America) 1-703-527-3887 (International) |

2. Hazard(s) identification

| | |
|--|--|
| Physical hazards | Not classified. |
| Health hazards | Not classified. |
| Environmental hazards | Not classified. |
| OSHA defined hazards | Not classified. |
| Label elements | |
| Hazard symbol | None. |
| Signal word | Not available. |
| Hazard statement | Not available. |
| Prevention | Not available. |
| Response | Not available. |
| Storage | Not available. |
| Disposal | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| Hazard(s) not otherwise classified (HNOC) | Heated product will cause thermal burns. See section 11 of the SDS for additional information on health hazards. |
| Supplemental information | None. |

3. Composition/information on ingredients**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|--|---------------------------------|-------------------|----------|
| ASPHALT | | 8052-42-4 | < 40 |
| DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC | | 64742-52-5 | < 35 |
| PROPRIETARY INGREDIENTS | | N/A | < 5 |

4. First-aid measures

| | |
|---|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Dry chemicals. 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 Cool containers exposed to heat with water spray and remove container, if no risk is involved.

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. 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 discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas.

Conditions for safe storage, including any incompatibilities Keep away from heat and sources of ignition. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

| Components | Type | Value | Form |
|---|------|---------------------|-------|
| DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5) | PEL | 5 mg/m ³ | Mist. |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|-------------------------|------|-----------------------|---------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 0.5 mg/m ³ | Inhalable fraction. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|---|---------|----------------------|-------|
| ASPHALT (CAS 8052-42-4) | Ceiling | 5 mg/m ³ | Fume. |
| DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5) | STEL | 10 mg/m ³ | Mist. |
| | TWA | 5 mg/m ³ | Mist. |

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.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear protective gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection Not available.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations 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.

9. Physical and chemical properties

Appearance Brown Liquid

Physical state Liquid.

Form Liquid.

Color Brown.

Odor Mild Petroleum Odor

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range > 212 °F (> 100 °C)

Flash point > 140.0 °F (> 60.0 °C) Cleveland Open Cup

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 Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Readily dispersible

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

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Flammability class Combustible IIIA estimated

Specific gravity 1

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 | 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

| | |
|---------------------|---|
| Ingestion | May cause gastrointestinal discomfort if swallowed. Do not induce vomiting. Vomiting may increase risk of product aspiration. |
| Inhalation | May be harmful if inhaled. However, this product does not currently meet the criteria for classification. |
| Skin contact | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. |
| Eye contact | May be irritating to eyes. |

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

| | |
|--|---|
| Acute toxicity | Not classified. |
| Skin corrosion/irritation | Not classified. May cause defatting of the skin, but is neither an irritant nor a sensitizer. |
| Serious eye damage/eye irritation | Not classified. |

Respiratory or skin sensitization

| | |
|----------------------------------|-----------------|
| Respiratory sensitization | Not classified. |
| Skin sensitization | Not classified. |

Germ cell mutagenicity Non-mutagenic based on Modified Ames Assay.

Carcinogenicity Contains polycyclic aromatic compounds (PACs). Prolonged and/or repeated skin contact with certain PACs has been shown to cause skin cancer. Prolonged and/or repeated exposures by inhalation of certain PACs may also cause cancer of the lung and of other sites of the body.

IARC Monographs. Overall Evaluation of Carcinogenicity

ASPHALT (CAS 8052-42-4) 2B Possibly carcinogenic to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

| | |
|---|--|
| Reproductive toxicity | Contains no ingredient listed as toxic to reproduction |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not classified. |
| Chronic effects | Prolonged or repeated contact may cause drying, cracking, or irritation of the skin. |

12. Ecological information

| | |
|--------------------------------------|--|
| Ecotoxicity | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | No data available. |
| 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. |
| 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

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 available.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

ASPHALT (CAS 8052-42-4) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

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

US. Massachusetts RTK - Substance List

ASPHALT (CAS 8052-42-4)
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

ASPHALT (CAS 8052-42-4)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

ASPHALT (CAS 8052-42-4) Listed: January 1, 1990

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*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 | 04-16-2015 |
| Version # | 01 |
| Disclaimer | 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 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. |
| Revision Information | Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information Regulatory Information: United States GHS: Classification |