SAFETY DATA SHEET



1. Identification

| Product identifier | KEM GLO® 5 | |
|----------------------------------|-----------------------------|--------------------------|
| Other means of identification | | |
| Product code | 004981 | |
| Recommended use | A source of red carotenoids | for use in poultry feed. |
| Recommended restrictions | None known. | |
| Manufacturer/Importer/Supplier/I | Distributor information | |
| Manufacturer | | |
| Company name | Kemin Industries, Inc. | |
| Address | 2100 Maury Street | |
| | Des Moines, Iowa 50317 | |
| | United States | |
| Telephone | (515) 559-5100 | |
| Website | http://www.kemin.com/ | |
| E-mail | media@kemin.com | |
| Emergency phone number | CHEMTREC | 1-800-424-9300 |

2. Hazard(s) identification

| Physical hazards | Not classified. |
|-----------------------|----------------------|
| Health hazards | Acute toxicity, oral |
| Environmental hazards | Not classified. |
| OSHA defined hazards | Not classified. |
| Label elements | |



| Signal word | Warning |
|--|--|
| Hazard statement | Harmful if swallowed. |
| Precautionary statement | |
| Prevention | Wash thoroughly after handling. Do not eat, drink or smoke when using this product. |
| Response | If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. |
| 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 | 89.95% of the mixture consists of component(s) of unknown acute dermal toxicity. 87.79% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. |

Category 4

3. Composition/information on ingredients

| Mixtures | |
|----------|--|
|----------|--|

| Chemical name | Common name and synonyms | CAS number | % |
|---------------------------|--------------------------|------------|-----------|
| Calcium Carbonate | | 471-34-1 | 50 - < 60 |
| Propylene Glycol | | 57-55-6 | 5 - < 10 |
| Ethoxyquin | | 91-53-2 | 1 - < 3 |
| Other components below re | portable levels | | 30 - < 40 |

*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 | 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. 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 | Coughing. |
| 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. |
| | |

5. Fire-fighting measures

| Suitable extinguishing media Unsuitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). 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 | Use water spray to cool unopened containers. |
| Specific methods General fire hazards | Use standard firefighting procedures and consider the hazards of other involved materials. 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. 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 | The product is immiscible with water and will spread on the water surface. |
| | 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 discharge into drains, water courses or onto the ground. |
| 7. Handling and storage | |
| Precautions for safe handling | Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. 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) | | | |
|---|------|---------|----------------------|
| Components | Туре | Value | Form |
| Calcium Carbonate (CAS 471-34-1) | PEL | 5 mg/m3 | Respirable fraction. |

| Components | Туре | Value | Form |
|---|--|--|----------------------------|
| | | 15 mg/m3 | Total dust. |
| US. NIOSH: Pocket Guide | to Chemical Hazards | | |
| Components | Туре | Value | Form |
| Calcium Carbonate (CAS 471-34-1) | TWA | 5 mg/m3 | Respirable. |
| | | 10 mg/m3 | Total |
| US. Workplace Environme | ntal Exposure Level (WEEL) Guides | | |
| Components | Туре | Value | Form |
| Propylene Glycol (CAS 57-55-6) | TWA | 10 mg/m3 | Aerosol. |
| logical limit values | No biological exposure limits noted for th | e ingredient(s). | |
| propriate engineering trols | Good general ventilation should be used applicable, use process enclosures, loca maintain airborne levels below recommen established, maintain airborne levels to a | l exhaust ventilation, or oth nded exposure limits. If ex | er engineering controls to |
| ividual protection measures | | | |
| | s, such as personal protective equipment | | |
| Eye/face protection | Face shield is recommended. Wear safe | | s (or goggles). |
| Eye/face protection Skin protection Hand protection | | ty glasses with side shields | s (or goggles). |
| Skin protection | Face shield is recommended. Wear safe | ty glasses with side shields ves. | s (or goggles). |
| Skin protection Hand protection | Face shield is recommended. Wear safe | ty glasses with side shields ves. hing. | |
| Skin protection Hand protection Other | Face shield is recommended. Wear safe Wear appropriate chemical resistant glov Wear appropriate chemical resistant clot | ty glasses with side shields /es. hing. uitable respiratory equipme | |

9. Physical and chemical properties

Appearance Solid. **Physical state** Solid. Form Color Orange red Odor Paprika Odor threshold Not available. Not available. pН Not available. Melting point/freezing point Initial boiling point and boiling Not available. range Not available. Flash point **Evaporation rate** Not available. Not available. Flammability (solid, gas) Upper/lower flammability or explosive limits Flammability limit - lower Not available. (%) Flammability limit - upper Not available. (%) Not available. Explosive limit - lower (%) Explosive limit - upper (%) Not available.

Vapor pressure Vapor density

Relative density

0.01 hPa estimated

Not available.

Not available.

| Solubility(ies) | |
|--|----------------------------|
| Solubility (water) | Insoluble. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Bulk density | 31 - 38 lb/ft ³ |

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. Contact with incompatible materials. |
| Incompatible materials | Acids. Fluorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| mormation on likely routes of | exposure | | |
|--|--|--------------------------|-----|
| Inhalation | Prolonged inhalation may be har | mful. | |
| Skin contact | No adverse effects due to skin contact are expected. | | |
| Eye contact | Direct contact with eyes may cause temporary irritation. | | |
| Ingestion | Harmful if swallowed. | | |
| Symptoms related to the physical, chemical and toxicological characteristics | Coughing. | | |
| Information on toxicological ef | fects | | |
| Acute toxicity | Harmful if swallowed. | | |
| Components | Species | Test Results | |
| Calcium Carbonate (CAS 471-34 | -1) | | |
| Acute | | | |
| Oral | | | |
| LD50 | Rat | 6450 mg/kg | |
| Propylene Glycol (CAS 57-55-6) | | | |
| <u>Acute</u> | | | |
| Oral | | | |
| LD50 | Rat | 30 g/kg | |
| Skin corrosion/irritation | Prolonged skin contact may caus | e temporary irritation. | |
| Serious eye damage/eye irritation | Direct contact with eyes may cau | se temporary irritation. | |
| Respiratory or skin sensitizatio | on | | |
| Respiratory sensitization | Not a respiratory sensitizer. | | |
| Skin sensitization | This product is not expected to cause skin sensitization. | | |
| 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 carcinogeni | city to humans. | |
| IARC Monographs. Overall | Evaluation of Carcinogenicity | | |
| Not listed. | | | |
| | ed Substances (29 CFR 1910.1001 | -1052) | |
| Not regulated. | | | |
| Material name: KEM GLO® 5 | | | SDS |

| US. National Toxicology Program | (NTP) Report on Carcinogens |
|---------------------------------|-----------------------------|
|---------------------------------|-----------------------------|

| 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

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.

| Product | | Species | Test Results |
|-----------------------------|---|--------------------------------|---|
| KEM GLO® 5 | | | |
| Aquatic | | | |
| Fish | LC50 | Fish | 3553.8235 mg/l, 96 hours estimated |
| Components | | Species | Test Results |
| Calcium Carbonate (CAS 47 | 1-34-1) | | |
| Aquatic | | | |
| Fish | LC50 | Western mosquitofish (G | ambusia affinis) > 56000 mg/l, 96 hours |
| rsistence and degradability | No data is | available on the degradability | of any ingredients in the mixture. |
| accumulative potential | | | |
| bility in soil | No data available. | | |
| ner 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. 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.

ΙΑΤΑ

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Not applicable. Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

| | Toxic Substances Control A | Act (TSCA) | |
|---|--|--|------------------------|
| | TSCA Section 12(b) Ex | | |
| | Not regulated. | | |
| | CERCLA Hazardous Substa | | |
| | Not listed. | | |
| | SARA 304 Emergency relea | | |
| | Not regulated. | | |
| | OSHA Specifically Regulate | | |
| | Not regulated. | | |
| | Superfund Amendments and Re | eauthorization Act of 1986 (SARA) | |
| | SARA 302 Extremely hazar | dous substance | |
| | Not listed. | | |
| | SARA 311/312 Hazardous chemical | Yes | |
| | Classified hazard categories | Acute toxicity (any route of exposure) | |
| | SARA 313 (TRI reporting) Not regulated. | | |
| | Other federal regulations | | |
| | Clean Air Act (CAA) Sectior | n 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 | | |
| California Safe Drinking Water and Toxic Enforcement Act of 1986 (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 | | |
| | Country(s) or region | Inventory name | On inventory (yes/no)* |
| | Austrolia | Australian Inventory of Chamical Substances (AICS) | Na |

| Country(s) or region | Inventory name On inventory | / (yes/no)* |
|----------------------------------|---|-------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |
| *A "Vaa" indicates that all some | nente of this product comply with the inventory requirements administered by the governing country (o | ` |

*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 | 11-10-2017 |
|---------------|------------|
| Revision date | 10-15-2020 |
| Version # | 05 |

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.