SECTION 1 – COMPANY AND PRODUCT IDENTIFICATION

Haynes Manufacturing Co.                                Emergency Phone: (440) 871-2188 X195
24142 Detroit Rd.                                        Revision Date:  11/17/2016
Westlake, Ohio 44145, USA                                Contact: Beth Kloos

PRODUCT NAME: HAYNES 500 – WHITE CAP
PRODUCT CODE: 20
APPLICATION: LUBRICATING GREASE
USES ADVISED AGAINST: FOR INDUSTRIAL USE ONLY

SECTION 2 – HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not classified under the Globally Harmonized System.

Label Elements

<table>
<thead>
<tr>
<th>Emergency Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance White</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)
None known

Other Information
None known

Unknown acute toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>Cas No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

The exact percentage (concentration) of composition has been withheld as a trade secret.
SECTION 4 – FIRST AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance. Remove contaminated clothing and shoes. Wash contaminated clothing before re-use. Wash off with soap and water. If symptoms persist, call a physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin contact: Remove and wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician if necessary. Consult a physician.

Note to physician: Treat symptomatically.

Medical condition aggravated by exposure: Dermatitis.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguishing media: CO2 extinguishers and dry chemical.

Specific hazards: Do not allow material to contaminate ground water system.

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

Specific methods: Water mist may be used to cool closed containers.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Ensure adequate ventilation. Do not breathe vapour/dust. Use personal protective equipment. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling.
Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

**SECTION 7 – HANDLING AND STORAGE**

Handling

Technical measures/precautions: Provide sufficient air exchange and/or exhaust in work rooms.

Safe handling advice: In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe vapors or spray mist. Wear personal protective equipment. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage

Technical measures/storage conditions: Store at room temperature in the original container

Incompatible products: Strong oxidizing agents

Safe storage temperature: 5 – 35 °C

Shelf life: 2 years

**SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION**

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH Exposure Limits</th>
<th>OSHA TWA (final)</th>
<th>NIOSH – Pocket Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Mineral Oil</td>
<td>5 mg/m³</td>
<td>5 mg/m³</td>
<td>5 mg/m³ (TWA)</td>
</tr>
<tr>
<td>Thickening Agent</td>
<td>1 mg/m³ (TWA)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>None</td>
<td>None</td>
<td>10 mg/m³ (TWA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mg/m³ (TWA)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>10 mg/m³ (TWA)</td>
<td>15 mg/m³</td>
<td>None</td>
</tr>
</tbody>
</table>

Engineering measures: Ensure adequate ventilation.

Personal Protective Equipment:

General: Eye Wash and Safety Shower

Respiratory protection: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, a NIOSH-certified respirator with organic vapor/P100 filter should be worn.
Eye protection: Safety glasses with side-shields.

Hand protection: Recommended: neoprene, latex, nitrile, butyl rubber and polyethylene type.

Skin and body protection: Long sleeved clothing.

Hygiene measures: Avoid contact with skin, eyes and clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Grease
Appearance: White
Odor: Characteristic
Odor Threshold: No information available.
pH concentrate: Not applicable.
pH Dilution: No information available.
Melting/freezing point: No information available.
Boiling Point/Range: No information available.
Flash Point: 249°C/480°F
Method: Cleveland Open Cup (COC)
Evaporation Rate: No information available.
Flammability Limits in Air
   Upper Flammability Limit: No information available.
   Lower Flammability Limit: No information available.
VOC Content (lb/gal): No information available.
Vapor Pressure: No information available.
Vapor Density: No information available.
Specific Gravity (g/cc, 15°C): 0.91
Bulk Density (lb/gal, 15°C): 7.5
Density @25°C(g/cc): 0.91
Bulk Density @77°F(lb/gal): 7.5
Water Solubility: Insoluble
Solubility in other solvents: No information available.
Partition coefficient: n-octanol/water: No information available.
Autoignition temperature: No information available.
Decomposition Temperature: No information available.
Kinematic viscosity: 220 mm²/s @40°C
Dynamic viscosity: No information available.
Molecular Weight: No information available.
SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Conditions to avoid: None known

Materials to avoid: Strong oxidizing agents


SECTION 11 – TOXICOLOGICAL INFORMATION

No toxicological information is available on the product. Data obtained on components are summarized below.

Information on likely routes of exposure

Inhalation: May cause irritation of respiratory tract.
Eye Contact: Contact with eyes may cause irritation.
Skin Contact: Prolonged contact may cause redness and irritation.
Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

<table>
<thead>
<tr>
<th>Components</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>10000 mg/kg (Rat)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Oral LD50&gt;10000</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Mg/kg (Source: IUCLID)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity

This product contains titanium dioxide which is classified as an IARC 2B carcinogen based on laboratory studies where animals were exposed to titanium dioxide dust. This is not a relevant route of exposure for this product since it is a moist solid material with little to no chance of producing dust.

<table>
<thead>
<tr>
<th>Components</th>
<th>IARC Carcinogens</th>
<th>NTP</th>
<th>OSHA-Select Carcinogens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>Group 2B</td>
<td>Not Listed</td>
<td>Present</td>
</tr>
</tbody>
</table>

Sensitization: No information available.
Mutagenic effects: No information available.
Reproductive Toxicity: No information available.
Developmental Toxicity: No information available.
Safety Data Sheet

HAYNES 500

Haynes Manufacturing Company

Teratogenic: No information available.
Specific target organ systemic toxicity (single exposure) No information available.
Specific target organ systemic toxicity (repeated exposure) No information available.
Aspiration Hazard: No information available.

Additional information on toxicological effects

MINERAL OIL INFORMATION:

Any products containing a substance for which OSHA has established permissible exposure limit (PEL) is considered hazardous. OSHA has established a PEL of 5 mg/m³ for worker exposure to airborne mists of mineral oils. Therefore, the presence of mineral oils brings this product within the provisions of the OSHA Hazard Communication Standard where the PEL reaches or exceeds 5 mg/m³. Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists, or fumes should be minimized.

SECTION 12 – ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Components</th>
<th>Ecotoxicity – Fish Species Data:</th>
<th>Ecotoxicity – Freshwater Algae Data:</th>
<th>Ecotoxicity – Water Flea Data:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>

0.4% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability: No information available

Bioaccumulation: No information available.

<table>
<thead>
<tr>
<th>Components</th>
<th>Octanol/water partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>-</td>
</tr>
</tbody>
</table>

Mobility: No data available

Ozone: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste from residues/unused products: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Contaminated packaging: Do not re-use empty containers
Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

SECTION 14 – TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:
   Proper shipping name: Not Regulated

TDG (CANADA):
   Proper shipping name: Not Regulated

IMDG/IMO:
   Proper shipping name: Not Regulated

IATA/ICAO:
   Proper shipping name: Not Regulated

SECTION 15 – REGULATORY INFORMATION

Federal Regulations

OSHA Hazard Communication Standard This product is considered non-hazardous under the OSHA Hazard Communication Standard.

CERCLA/SARA Information

SARA (311, 312) hazard class: This product possesses the following SARA Hazard Categories
   Immediate Health (Acute): No
   Delayed Health (Chronic): No
   Flammability: No
   Pressure: No
   Reactivity: No

<table>
<thead>
<tr>
<th>Components</th>
<th>Hazardous Substances and RQs</th>
<th>Extremely Hazardous Substances and TPQs</th>
<th>SARA 313 Emission Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

CERCLA/SARA 313 Emission reporting: This product contains no components subject to the reporting of SARA 313.

Clean Air and Clean Water Acts:

<table>
<thead>
<tr>
<th>Components</th>
<th>Hazardous Air Pollutants</th>
<th>CWA – Hazardous Substances</th>
<th>CWA – Toxic Pollutants</th>
<th>CWA – Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>
U.S. STATE REGULATIONS (RTK):

<table>
<thead>
<tr>
<th>Components</th>
<th>California Proposition 65</th>
<th>PARTK</th>
<th>MI Critical Materials</th>
<th>NJRTK</th>
<th>MARTK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>carcinogen</td>
<td>Present</td>
<td>Not Listed</td>
<td>1861</td>
<td>Present</td>
</tr>
</tbody>
</table>

**California Proposition 65 Status:** Listed component present: titanium dioxide

**RCRA Status:** Not regulated

**NSF Registration Number:** 135023

**CANADIAN REGULATIONS**

<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule 1</th>
<th>Challenge Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**INVENTORY STATUS:**

**United States TSCA Inventory:** This product complies with TSCA

**Canada DSL/NDSL Inventory List** This product complies with DSL

**SECTION 16 – OTHER INFORMATION**

Sources of key data used to compile Material Safety Data Sheets of the ingredients.

**Revision Date:** 11/17/2016

**Reason for Revision:** This data sheet contains changes from previous version in section(s) 15 (TSCA).

Personal protection recommendations should be reviewed by purchasers.
Workplace conditions are important factors in specifying adequate protection.

**Prepared By:**

Haynes Manufacturing Company
24142 Detroit Road
Westlake, Ohio 44145

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assume no responsibility for any loss, damage, of expense, direct or consequential, arising out of their use.

End of Safety Data Sheet