SAFETY DATA SHEET

1. COMPANY AND PRODUCT IDENTIFICATION

Product identifier
Product Name: HAYNES 500 - BLUE CAP
Product code:

Other means of identification
Synonyms: No information available.

Application
Recommended Use: Lubricating Grease
Uses advised against: For industrial use only

Supplier/Manufacturer:
HAYNES MANUFACTURING COMPANY
24142 DETROIT ROAD
WESTLAKE, OH 44145
Emergency Telephone Number:
1-440-871-2188 Ext 195
1-800-992-2166 Ext 195

2. HAZARDS IDENTIFICATION

Classification
OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Chronic aquatic toxicity Category 2

Label Elements

Hazard Statements
Toxic to aquatic life with long lasting effects

Emergency Overview
Precautionary Statements - Prevention
Avoid release to the environment

Collect spillage

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
None known

Other Information
Toxic to aquatic life.

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

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>1314-13-2</td>
<td>5 - 10%</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>124-04-9</td>
<td>1 - 5%</td>
</tr>
</tbody>
</table>

The exact percentage (concentration) of composition has been withheld as a trade secret.

### 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.
Note to physician: Treat symptomatically.
Medical condition aggravated by exposure: Dermatitis.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use dry chemical, CO₂, water spray or `alcohol` foam.
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.

6. ACCIDENTAL RELEASE MEASURES

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

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
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>Zinc oxide</td>
<td>2 mg/m³ (TWA)</td>
<td>None</td>
<td>5 mg/m³ (TWA)</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>None</td>
<td>15 mg/m³</td>
<td>10 mg/m³ (TWA)</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>None</td>
<td>10 mg/m³</td>
<td>5 mg/m³ (TWA)</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>5 mg/m³ (TWA)</td>
<td>None</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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Grease

Appearance: Opaque white

Odor: Characteristic

Odor Threshold: No information available.

pH concentrate: NA

pH Dilution: No information available

Melting/freezing point: No information available

Boiling Point/Range: No information available

Flash Point: 215.5 °C / 420 °F
Method | Cleveland Open Cup (COC)
---|---
Evaporation rate | No information available
Flammability Limits in Air | No information available.
  upper flammability limit | No information available.
  lower flammability limit | No information available.
VOC Content | No information available
Vapor pressure | No information available.
Vapor density | No information available.
Specific Gravity (g/cc, 15 C) | 0.89
Bulk Density (lb/gal, 15 C) | 7.42
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 | 68 \text{ mm}^2/\text{s} @ 40 \text{ C}
Dynamic viscosity | No information available
Molecular Weight | No information available

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Conditions to avoid:** None known.

**Materials to avoid:** Strong oxidizing agents.

**Hazardous decomposition products:** Carbon oxides. Sulphur oxides. Smoke.

**Hazardous Polymerization:** Not applicable.

### 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>Zinc oxide</td>
<td>5000 mg/ kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>-</td>
<td>-</td>
<td>7.7 mg/ L (Rat) 4 h</td>
</tr>
</tbody>
</table>

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

Carcinogenicity  The table below indicates whether each agency has listed any ingredient as a carcinogen

<table>
<thead>
<tr>
<th>Components</th>
<th>IARC Carcinogens</th>
<th>NTP</th>
<th>OSHA - Select Carcinogens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Sensitization  No information available.
Mutagenic effects:  No information available.
Reproductive Toxicity  No information available.
Developmental Toxicity  No information available.
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 product containing a substance for which OSHA has established a 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.

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>Zinc oxide</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>
Adipic acid | 97 | =85.7 mg/L | EC50 (Daphnia magna - 48h) = 85.7 mg/L

0.2% of the mixture consists of components(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>Zinc oxide</td>
<td>-</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>-</td>
</tr>
</tbody>
</table>

### Mobility
No data available

### Ozone
No data available

### 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.

### 14. TRANSPORT INFORMATION

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

#### TDG (CANADA):
- **UN nr:** UN3077
- **Proper shipping name:** Environmentally hazardous substance, soild, n.o.s. (contains Zinc Oxide)
- **TDG Hazard Classification:** 9
- **Packing group:** III

#### IMDG/IMO:
- **UN nr:** UN3077
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOILD, N.O.S. (contains Zinc Oxide)
- **Class:** 9
- **Packing group:** III
- **EMS:** F-A, S-F
- **Marine pollutant:** Marine Pollutant

#### IATA/ICAO:

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HAYNES 500 - BLUE CAP 7 / 9 Revision Date: 06/03/2015
UN nr: UN3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (contains Zinc Oxide)
Hazard Class: 9
Packing group: III
Marine pollutant: Marine Pollutant

15. REGULATORY INFORMATION

Federal Regulations
OSHA Hazard Communication Standard: This product is considered to be 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>Zinc oxide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>1.0 %</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>5000 lb</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

CERCLA/SARA 313 Emission reporting: 6 % Zinc compounds (EPA ID EB49699)

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>Zinc oxide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>Not listed</td>
<td>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>NURTK</th>
<th>MARTK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>Not Listed</td>
<td>Environmental hazard</td>
<td>100 lb</td>
<td>2037</td>
<td>Present</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>Not Listed</td>
<td>Environmental hazard</td>
<td>Not Listed</td>
<td>0026</td>
<td>Present</td>
</tr>
</tbody>
</table>

California Proposition 65 Status: No components are listed
RCRA Status: Not regulated

CANADIAN REGULATIONS:
Canada - WHMIS Classification Information: This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Canadian Product Classification: None Required

Product Classification Graphic(s):

Component Classification Data:

<table>
<thead>
<tr>
<th>Components</th>
<th>WHMIS hazard class</th>
<th>CEPA Schedule I</th>
<th>Challenge Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>Uncontrolled product according to WHMIS classification criteria</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>None</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

INVENTORY STATUS:

United States TSCA - Sect. 8(b) Inventory: This product complies with TSCA

Canada DSL/NDSL Inventory List This product complies with DSL

16. OTHER INFORMATION

Sources of key data used to compile the data sheet: Material safety data sheets of the ingredients.

Prepared by: Safety, Health and Environmental Department

Revision Date: 06/03/2015

Reason for revision: New Format.

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

We believe the statements, technical information, and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, expressed or implied, and we assume no responsibility for any loss, damage, of expense, direct or consequential, arising out of their use.

End of Safety Data Sheet