1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product code:</th>
<th>HY112</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Name:</td>
<td>HYDROXYETHYL CELLULOSE, 100 CPS, NF</td>
</tr>
<tr>
<td>Chemical Name:</td>
<td>No information available</td>
</tr>
</tbody>
</table>
| Synonyms: | Cellulose 2-Hydroxyethyl Ether  
| | 2-Hydroxyethyl cellulose  
| | Hydroxyethyl cellulose ether  
| | 2-Hydroxyethyl cellulose ether  
| | Hydroxyethyl ether cellulose  
| | Cellulose hydroxyethylate  
| | Cellosize  
| | Natrosol |

Recommended use: Thickening agent.

CAS #: 9004-62-0

RTECS #: FJ5958000

Formula: No information available

CI#: Not available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

Order Online At: https://www.spectrumchemical.com

Emergency Telephone Number: CHEMTREC: 1-800-424-9300

Contact Person: Regina Wachenheim (East Coast)

Contact Person: Martin LaBenz (West Coast)

2. HAZARDS IDENTIFICATION
2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING!
MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR
May cause skin and eye irritation
May cause irritation of respiratory tract

<table>
<thead>
<tr>
<th>Odor:</th>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
</table>

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

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Potential Health Effects:

Skin Contact:
May cause skin irritation.

Eye Contact:
May cause eye irritation.

Inhalation:
May cause irritation of respiratory tract.

Ingestion:
Expected to be a low hazard. Ingestion of large amounts may cause gastrointestinal (digestive) tract irritation and may cause intestinal obstruction.

Chronic Potential Health Effects:

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps 9004-62-0 (100)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Organs:</th>
<th>Mutagenic Effects:</th>
<th>Teratogenic Effects:</th>
<th>Aggravated Medical Conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product code: HY112
Product name: HYDROXYETHYL CELLULOSE, 100 CPS, NF
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>9004-62-0</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

- **General Advice:** Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)
- **Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
- **Eye Contact:** Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
- **Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. In case of shortness of breath, give oxygen. Get medical attention.
- **Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
- **Notes to Physician:** Treat symptomatically

5. FIRE-FIGHTING MEASURES

**Flammable Properties**

- **Flashpoint (°C/°F):** No information available.
- **Flash Point Tested according to:** Not available
- **Lower Explosion Limit (%):** No information available
- **Upper Explosion Limit (%):** No information available
- **Autoignition Temperature (°C/°F):** No information available

**Suitable Extinguishing Media:** Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

**Hazardous Combustion Products:** Carbon monoxide; Carbon dioxide

**Specific hazards:** May be combustible at high temperatures. Avoid generating dust. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

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

**Specific Methods:** No information available.
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Avoid dust formation. Avoid dispersal of dust in the air. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Nonsparking tools should be used.

Environmental Precautions:
No information available.

Methods for Cleaning Up:
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Minimize dust generation and accumulation. Avoid dust formation. Dry powders can build static electricity charges when subjected to friction of transfer and mixing operations. All equipment used when handling the product must be grounded. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:
Oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:
Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment) It is recommended that all dust control equipment such as local exhause ventilation and material transport systems involved in the handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Personal Protective Equipment

Product code: HY112  Product name: HYDROXYETHYL CELLULOSE, 100 CPS, NF
**Eye protection:**  Safety glasses. Safety glasses with side-shields.

**Skin and body protection:**  Long sleeved clothing. Chemical resistant apron. Gloves.

**Respiratory protection:**  Wear respirator with dust filter.

**Hygiene measures:**  Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

### National occupational exposure limits

#### United States

**U.S Occupational Exposure Limits:** Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps - 9004-62-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Canada

**Canada Occupational Exposure Limits:** Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps - 9004-62-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</tbody>
</table>

#### Australia and Mexico

**Occupational Exposure Limits for Australia and Mexico:** Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps - 9004-62-0</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### 9. PHYSICAL AND CHEMICAL PROPERTIES
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.
Appearance: Powder.
Odor: Odorless.
Flash point (°C): No data available
Autoignition Temperature (°C/°F): No information available
pH: No information available
Decomposition temperature(°C/°F): No information available
Evaporation rate: No information available
Odor threshold (ppm): No information available
Solubility: Soluble in Water

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions
Conditions to avoid: Heat. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Incompatible materials.
Incompatible Materials: Oxidizing agents.
Hazardous decomposition products: Carbon monoxide. Carbon dioxide.
Possibility of Hazardous Reactions: No information available
Polymerization: Hazardous polymerisation does not occur
Corrosivity: No information available
Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Component Information

2-Hydroxyethyl Cellulose, 100 cps - 9004-62-0
LD50/oral/rat = No information available

Product code: HY112 Product name: HYDROXYETHYL CELLULOSE, 100 CPS, NF
Product Information

LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LD50/oral/mouse = No information available
LD50/oral/rat = No information available

Local Effects

Skin irritation: May cause skin irritation.
Eye irritation: Contact with eyes may cause irritation.
Inhalation: May cause irritation of respiratory tract. May cause chemical pneumonitis.
Ingestion: Although it is generally considered nonirritating, ingestion of large amounts may cause gastrointestinal (digestive) tract irritation and may cause intestinal obstruction. Not expected to be a health hazard.

Sensitization: No information available

Chronic Toxicity

Chronic Toxicity No information available

Carcinogenic effects: Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA HCS - Carcinogens</th>
<th>ACGIH - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects: No information available

Reproductive Effects: No information available

Teratogenic Effects: No information available

Target Organs: No information available

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: No information available

Ecotoxicity effects: No data available.

Aquatic toxicity: No information available

Product code: HY112 Product name: HYDROXYETHYL CELLULOSE, 100 CPS, NF
Mobility: No information available
Persistence and degradability: No information available
Bioaccumulative potential: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
- UN-No: Not regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Packing Group: None
- Subsidiary Risk: Not applicable
- Marine Pollutant: No data available
- ERG No: No information available
- DOT RQ (lbs): No information available

TDG (Canada)
- UN-No: Not Regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Packing Group: No information available
- Subsidiary Risk: No information available
- Description: No information available

ADR
- UN-No: No information available
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Packing Group: No information available
- Subsidiary Risk: No information available
- Classification Code: No information available
- Description: No information available
- CEFIC Tremcard No: No information available

IMO / IMDG
- UN-No: Not Regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Packing Group: No information available
- Subsidiary Risk: No information available
- Description: No information available
- IMDG Page: No information available
- Marine Pollutant: No information available

Product code: HY112
Product name: HYDROXYETHYL CELLULOSE, 100 CPS, NF
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>Philippines (PICCS)</th>
<th>KOREA KECL</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>Present XU</td>
<td>Present KE-20506</td>
<td>Present (8)-194</td>
<td>Present</td>
<td>Present</td>
<td>Not present</td>
<td></td>
</tr>
</tbody>
</table>

U.S. Regulations


Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
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<td>Not Listed</td>
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</tbody>
</table>

CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Product code: HY112  Product name: HYDROXYETHYL CELLULOSE, 100 CPS, NF
U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

Canada

WHMIS hazard class:
Non-controlled

2-Hydroxyethyl Cellulose, 100 cps
Uncontrolled product according to WHMIS classification criteria

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>Present</td>
<td>Not Listed</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2016 Greenhouse Gases Subject to Manditory Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

EU Classification

R-phrase(s)
not determined

S-phrase(s)
none

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Hydroxyethyl Cellulose, 100 cps</td>
<td>No information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
Not dangerous
The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

Preparation Date: 11-Jul-2014

Reason for revision: Not applicable

Prepared by: Sonia Owen

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.