
SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Trade name: Natrosol™ 250HHR CS Hydroxyethylcellulose
™ Trademark, Ashland or its subsidiaries, registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet
Ashland
P.O. Box 2219
Columbus, OH 43216
United States of America

EHS Customer Requests@ashland.com

Emergency telephone number
1-800-ASHLAND (1-800-274-5263)

Regulatory Information Number
1-800-325-3751

Product Information
614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Combustible Dust:

GHS Label element
Signal Word: Warning
Hazard Statements: May form combustible dust concentrations in air.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
Chemical nature: organic

Hazardous components
This product is considered hazardous according to the OSHA Hazard Communication Standard 29CFR1910.1200 due to flammable dust potential.
SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : If breathed in, move person into fresh air.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.

If swallowed : Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : No symptoms known or expected.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam

Specific hazards during firefighting : Organic dusts at sufficient concentration can form explosive mixtures in air.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
Nitrogen oxides (NOx)

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Standard procedure for chemical fires.
Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Avoid dust formation.
- Avoid breathing dust.
- Material can create slippery conditions.
- Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions:
- Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up:
- Pick up and arrange disposal without creating dust.
- Keep in suitable, closed containers for disposal.

Other information:
- Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling:
- Avoid dust formation.
- Ensure all equipment is electrically grounded and bonded before beginning transfer operations.
- The material can accumulate static charge and can therefore cause electrical ignition of flammable atmospheres.
- Smoking, eating and drinking should be prohibited in the application area.
- For personal protection see section 8.
- Maintain good housekeeping. Do not permit dust layers to accumulate, for example, on floors, ledges, and equipment, in order to avoid any potential for dust explosion hazards.
- For further guidance on prevention of dust explosions, refer to National Fire Protection Association (NFPA) 654: “Standard for the Prevention of Fire and Dust Explosions, from the Manufacturing, Processing and Handling of Combustible Particulate Solids”.

Conditions for safe storage:
- No smoking.
- Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid:
- No materials to be especially mentioned.
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Engineering measures : Provide appropriate exhaust ventilation at places where dust is formed. General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment
Respiratory protection : No personal respiratory protective equipment normally required.

Eye protection : Safety glasses

Skin and body protection : Wear as appropriate:
   Safety shoes
   Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Avoid breathing dust.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granules, powder
Physical state : solid
Colour : off-white
Odour : odourless
Odour Threshold : No data available
pH : 6.0 - 8.5, 2 % (as aqueous solution)
Melting point/freezing point : No data available
Boiling point/boiling range : No data available
Flash point : Not applicable
Evaporation rate : No data available
Flammability (solid, gas) : No data available
Upper explosion limit : No data available
Lower explosion limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : No data available
Density : 1.38 g/cm³
Solubility(ies)
Water solubility : soluble, Limited by viscosity
Solubility in other solvents : No data available
Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : 460 °C
Thermal decomposition : No data available
Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY
Reactivity : No decomposition if stored and applied as directed.
Chemical stability : Stable under recommended storage conditions.
Possibility of hazardous reactions : Dust may form explosive mixture in air.
Conditions to avoid : Keep away from heat, flame, sparks and other ignition sources.
UV light.
Exposure to sunlight.
Incompatible materials : Acids
Bases
Oxidizing agents
Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
- Inhalation
- Skin contact
- Eye Contact
- Ingestion

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Product:
Remarks: Unlikely to cause eye irritation or injury. Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Product:
No aspiration toxicity classification

Further information

Product:
Remarks: No data available

Carcinogenicity:
IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
SAFETY DATA SHEET

Revision Date: 05/21/2015
Print Date: 6/24/2015
SDS Number: R0702818

Version: 1.0

Natrosol™ 250HHR CS Hydroxyethyl cellulose
™ Trademark, Ashland or its subsidiaries, registered in various countries
420007

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability

Product:
Biodegradability: Remarks: Slowly biodegradable.

No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

Product:
Additional ecological information: No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
General advice: Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging: Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>*HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
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</tbody>
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U.S. DOT - ROAD

Not dangerous goods
U.S. DOT - RAIL
Not dangerous goods

U.S. DOT - INLAND WATERWAYS
Not dangerous goods

TRANSPORT CANADA - ROAD
Not dangerous goods

TRANSPORT CANADA - RAIL
Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS
Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS
Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO
Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER
Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES
Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

| Marine pollutant | no |

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION
SARA 311/312 Hazards : Fire Hazard

US State Regulations

Pennsylvania Right To Know

CELLULOSE 254504001-5906 90.00 - 100.00
The identity of one or more component(s) is being withheld under business confidentiality.

Inorganic Salts Not Assigned 5.00 - 10.00 %

New Jersey Right To Know

CELLULOSE 254504001-5906 90.00 - 100.00
The identity of one or more component(s) is being withheld under business confidentiality.

Inorganic Salts Not Assigned 5.00 - 10.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUST : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECL : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECL (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)
### SECTION 16. OTHER INFORMATION

**Further information**  
Revision Date: 05/21/2015

<table>
<thead>
<tr>
<th>NFPA:</th>
<th>HMIS III:</th>
</tr>
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<tbody>
<tr>
<td>Flammability</td>
<td>HEALTH 1</td>
</tr>
<tr>
<td>Instability</td>
<td>FLAMMABILITY 1</td>
</tr>
<tr>
<td>Health</td>
<td>PHYSICAL HAZARD 0</td>
</tr>
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</table>

Special hazard.

NFPA Flammable and Combustible Liquids Classification  
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

Sources of key data used to compile the Safety Data Sheet  
Ashland internal data including own and sponsored test reports  
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet:  
ACGIH : American Conference of Industrial Hygienists  
BEI : Biological Exposure Index  
CAS : Chemical Abstracts Service (Division of the American Chemical Society).  
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction  
FG : Food grade  
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.  
H-statement : Hazard Statement  
IATA : International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO: International Civil Aviation Organization
ICAO-TI (ICAO): Technical Instructions by the “International Civil Aviation Organization"
IMDG: International Maritime Code for Dangerous Goods
ISO: International Organization for Standardization
logPow: octanol-water partition coefficient
LC\textsubscript{xx}: Lethal Concentration, for xx percent of test population
LD\textsubscript{xx}: Lethal Dose, for xx percent of test population.
IC\textsubscript{xx}: Inhibitory Concentration for xx of a substance
Ec\textsubscript{xx}: Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD: Organization for Economic Co-operation and Development
OEL: Occupational Exposure Limit
P-Statement: Precautionary Statement
PBT: Persistent, Bioaccumulative and Toxic
PPE: Personal Protective Equipment
STEL: Short-term exposure limit
STOT: Specific Target Organ Toxicity
TLV: Threshold Limit Value
TWA: Time-weighted average
vPvB: Very Persistent and Very Bioaccumulative
WEL: Workplace Exposure Level

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
DOT: Department of Transportation
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC: Hazardous Materials Information Review Commission
HMIS: Hazardous Materials Identification System
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PMRA: Health Canada Pest Management Regulatory Agency
RTK: Right to Know
WHMIS: Workplace Hazardous Materials Information System