

**SAFETY DATA SHEET**

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
™ Trademark, Ashland or its subsidiaries, registered
in various countries
425654

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**Product identifier**

Trade name : Natrosol™ 250 G PHARM
Hydroxyethylcellulose
™ Trademark, Ashland or its subsidiaries, registered in
various countries

Substance name HYDROXYETHYLCELLULOSE

Substance No.

EC-No. 618-387-5

CAS-No. 9004-62-0

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Rheology modifier
in Pharmaceutical products

Details of the supplier of the safety data sheet

Ashland
P.O. Box 2219
Columbus, OH 43216
United States of America (USA)
1-614-790-3333

EHSPProductSafety@ashland.com

Emergency telephone number

1-800-ASHLAND (1-800-274-5263)

Regulatory information

1-614-790-3333 (customer service)

Product Information

1-614-790-3333

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Combustible Dust :

GHS label elements

Signal Word : Warning

SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

 Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

Hazard Statements : May form combustible dust concentrations in air.

 Precautionary Statements : **Prevention:**
 Keep dust/air mixtures away from ignition sources.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Chemical nature : organic

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
Inorganic salts		Eye Irrit. 2A; H319	3.00

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 : The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or Section 11.



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

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 (CO₂)
 Carbon monoxide
 Nitrogen oxides (NO_x)
 Oxides of phosphorus
 Sodium oxides
- 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.



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

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

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed.

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.

Materials to avoid : No materials to be especially mentioned.

Further information on storage stability : Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

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 : In the case of dust or aerosol formation use respirator with an approved filter within the capabilities of the respirator/filter combination.
 Where concentrations are above recommended limits or are unknown, or a cartridge type respirator is not adequate, wear a positive-pressure supplied-air respirator.

Hand protection

Material : butyl-rubber
 Break through time : 480 min
 Glove thickness : > 0.5 mm

Remarks : The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

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 : Not applicable

pH : Not applicable



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

Melting point/freezing point	: not determined
Boiling point/boiling range	: not determined
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: not determined
Upper explosion limit	: Upper explosion limit not determined
Lower explosion limit	: 30 g/m3
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
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	: not determined
Auto-ignition temperature	: 460 °C
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Oxidizing properties	: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
------------	---



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

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. Exposure to moisture
Incompatible materials	: Acids Bases Oxidizing agents strong bases
Hazardous decomposition products	Carbon monoxide Carbon dioxide (CO ₂) Nitrogen oxides (NO _x) Oxides of phosphorus Sodium oxides

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.

Components:

Inorganic salts:

Result: No skin irritation

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.



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

Components:

Inorganic salts:

Result: Irritating to eyes.

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.

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 on OSHA's list of regulated carcinogens.

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

Product:

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic : Not classified based on available information.

**SAFETY DATA SHEET**

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
™ Trademark, Ashland or its subsidiaries, registered
in various countries
425654

hazard

Persistence and degradability**Product:**

Biodegradability : Result: Not readily biodegradable.

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

Product:Additional ecological : No data available
information**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**

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

**SAFETY DATA SHEET**

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
™ Trademark, Ashland or its subsidiaries, registered
in various countries
425654

TDG_ROAD_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_INWT_C

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

MX_DG

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**TSCA list**

No substances are subject to TSCA 12(b) export notification requirements.



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
DISODIUM PHOSPHATE	7558-79-4	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Combustible Dust

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

BIO POLYMER III

254504001-
5906

The identity and concentration of one or more component(s) is being withheld under business confidentiality.

Inorganic salts

Not Assigned

New Jersey Right To Know

BIO POLYMER III

254504001-
5906

The identity and concentration of one or more component(s) is being withheld under business confidentiality.

Inorganic salts

Not Assigned

MONOSSODIUM PHOSPHATE

7558-80-7

DISODIUM PHOSPHATE

7558-79-4



SAFETY DATA SHEET

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: 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
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On or in compliance with the active portion of the TSCA inventory

Inventories

AICS (Australia), AIIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

SAFETY DATA SHEET

Revision Date: 10/28/2020

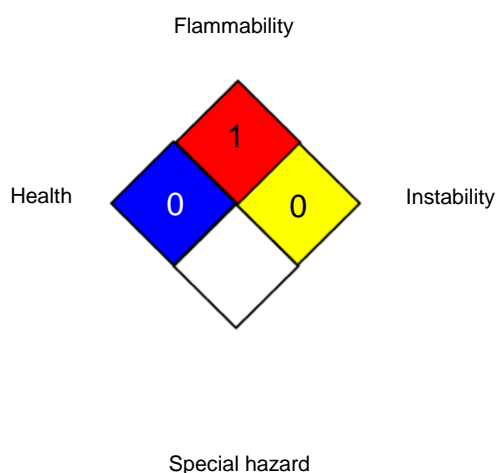
Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
™ Trademark, Ashland or its subsidiaries, registered
in various countries
425654

NFPA 704:



HMIS® IV:

HEALTH	/	0
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of H-Statements

H319 Causes serious eye irritation.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health

**SAFETY DATA SHEET**

Revision Date: 10/28/2020

Print Date: 11/20/2020

SDS Number: R0703331

Version: 1.9

Natrosol™ 250 G PHARM Hydroxyethylcellulose
 ™ Trademark, Ashland or its subsidiaries, registered
 in various countries
 425654

Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

This sds has been prepared by Ashland. (<http://www.ashland.com>)

Sources of key data used to compile the Safety Data Sheet : Ashland internal data including own and sponsored test reports
 European Union Law with content from the Official Journal of the European Union.
 European Chemicals Agency; the EU authority implementing the EU's chemicals legislation for companies.
 The German Water Hazard Classes.
 ReachCentrum; a series of support services to help comply with REACH regulations.
 The European Commission; proposing legislation, administering and implementing EU policies, and enforcing EU law.
 The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
 Cefic, the European Chemical Industry Council.
 ESIS European Chemical Substances Information System

Revision Date : 10/28/2020

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.

US / EN