



Safety Data Sheet - Version 5.0

Preparation Date 11/13/2015

Latest Revision Date (If Revised)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Chemical Name Hydroxypropyl Cellulose

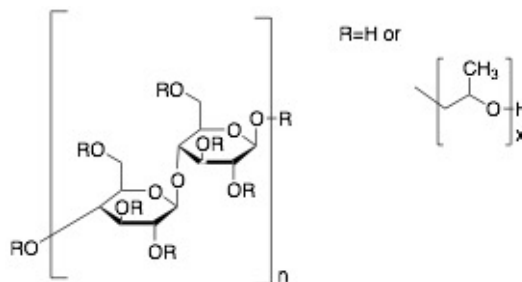
Catalogue # H952685

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Uses To be used only for scientific research and development. Not for use in humans or animals.

1.3 Details of the Supplier of the Safety Data Sheet

Company Toronto Research Chemicals
2 Brisbane Road
Toronto, ON M3J 2J8
CANADA
Telephone +14166659696
FAX +14166654439
Email orders.trc@lgcgroup.com



1.4 Emergency Telephone Number

Emergency# +1(416) 665-9696 between 0800-1700 (GMT-5)

2. HAZARDS IDENTIFICATION

2.1/2.2 Classification of the Substance or Mixture and Label Elements

GHS Hazards Classification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

Not a hazardous substance by GHS.

GHS Hazards Identification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

Signal Word None

GHS Hazard Statements

None Not a hazardous substance according to GHS.

GHS Precautionary Statements

2.3 Unclassified Hazards/Hazards Not Otherwise Classified

No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Molecular Formula: N/A

Molecular Weight: N/A

CAS Registry #: 9004-64-2

EC#:

Synonyms

2-Hydroxypropyl cellulose; AeroWhip; AeroWhip 630; AeroWhip 640; Aqualon Klucel L; Cellulose Hydroxypropyl Ether; Celny H; Celny HPC-L; Celny HPC-M; Celny HPC-SSL; Celny L; Celny M; Celny SL; E 463; G 4000HXL; H 0386; H 0473; H 0474; H 0475; HPC; HPC-E; HPC-E (cellulose derivative); HPC-EF-G; HPC-H; HPC-HF; HPC-L; HPC-L 100M; HPC-LE-G; HPC-LG; HPC-LR; HPC-M; HPC-MF; HPC-MG; HPC-S; HPC-S (cellulose derivative); HPC-SL; HPC-SSL; Hydroxypropyl Cellulose; Hydroxypropyl Cellulose Ether; Hydroxypropyl Ether of Cellulose; Hyprollose; JK 491; K 8913; K 9113; Klucel; Klucel E; Klucel EF; Klucel EXF; Klucel G; Klucel GF; Klucel H; Klucel HF; Klucel HXF; Klucel J; Klucel JF; Klucel L; Klucel LF; Klucel M; Klucel MCS; Klucel MF; Klucel N; Klucel P; Klucel Q; Klucel R; Klucel S; Klucel T; Klucel U; Klucel V; Klucel W; Klucel X; Klucel Y; Klucel Z; Klucel AA; Klucel AB; Klucel AC; Klucel AD; Klucel AE; Klucel AF; Klucel AG; Klucel AH; Klucel AI; Klucel AJ; Klucel AK; Klucel AL; Klucel AM; Klucel AN; Klucel AO; Klucel AP; Klucel AQ; Klucel AR; Klucel AS; Klucel AT; Klucel AU; Klucel AV; Klucel AW; Klucel AX; Klucel AY; Klucel AZ; Klucel BA; Klucel BB; Klucel BC; Klucel BD; Klucel BE; Klucel BF; Klucel BG; Klucel BH; Klucel BI; Klucel BJ; Klucel BK; Klucel BL; Klucel BM; Klucel BN; Klucel BO; Klucel BP; Klucel BQ; Klucel BR; Klucel BS; Klucel BT; Klucel BU; Klucel BV; Klucel BW; Klucel BX; Klucel BY; Klucel BZ; Klucel CA; Klucel CB; Klucel CC; Klucel CD; Klucel CE; Klucel CF; Klucel CG; Klucel CH; Klucel CI; Klucel CJ; Klucel CK; Klucel CL; Klucel CM; Klucel CN; Klucel CO; Klucel CP; Klucel CQ; Klucel CR; Klucel CS; Klucel CT; Klucel CU; Klucel CV; Klucel CW; Klucel CX; Klucel CY; Klucel CZ; Klucel DA; Klucel DB; Klucel DC; Klucel DD; Klucel DE; Klucel DF; Klucel DG; Klucel DH; Klucel DI; Klucel DJ; Klucel DK; Klucel DL; Klucel DM; Klucel DN; Klucel DO; Klucel DP; Klucel DQ; Klucel DR; Klucel DS; Klucel DT; Klucel DU; Klucel DV; Klucel DW; Klucel DX; Klucel DY; Klucel DZ; Klucel EA; Klucel EB; Klucel EC; Klucel ED; Klucel EE; Klucel EF; Klucel EG; Klucel EH; Klucel EI; Klucel EJ; Klucel EK; Klucel EL; Klucel EM; Klucel EN; Klucel EO; Klucel EP; Klucel EQ; Klucel ER; Klucel ES; Klucel ET; Klucel EU; Klucel EV; Klucel EW; Klucel EX; Klucel EY; Klucel EZ; Klucel FA; Klucel FB; Klucel FC; Klucel FD; Klucel FE; Klucel FF; Klucel FG; Klucel FH; Klucel FI; Klucel FJ; Klucel FK; Klucel FL; Klucel FM; Klucel FN; Klucel FO; Klucel FP; Klucel FQ; Klucel FR; Klucel FS; Klucel FT; Klucel FU; Klucel FV; Klucel FW; Klucel FX; Klucel FY; Klucel FZ; Klucel GA; Klucel GB; Klucel GC; Klucel GD; Klucel GE; Klucel GF; Klucel GH; Klucel GI; Klucel GJ; Klucel GK; Klucel GL; Klucel GM; Klucel GN; Klucel GO; Klucel GP; Klucel GQ; Klucel GR; Klucel GS; Klucel GT; Klucel GU; Klucel GV; Klucel GW; Klucel GX; Klucel GY; Klucel GZ; Klucel HA; Klucel HB; Klucel HC; Klucel HD; Klucel HE; Klucel HF; Klucel HG; Klucel HH; Klucel HI; Klucel HJ; Klucel HK; Klucel HL; Klucel HM; Klucel HN; Klucel HO; Klucel HP; Klucel HQ; Klucel HR; Klucel HS; Klucel HT; Klucel HU; Klucel HV; Klucel HW; Klucel HX; Klucel HY; Klucel HZ; Klucel IA; Klucel IB; Klucel IC; Klucel ID; Klucel IE; Klucel IF; Klucel IG; Klucel IH; Klucel II; Klucel IJ; Klucel IK; Klucel IL; Klucel IM; Klucel IN; Klucel IO; Klucel IP; Klucel IQ; Klucel IR; Klucel IS; Klucel IT; Klucel IU; Klucel IV; Klucel IW; Klucel IX; Klucel IY; Klucel IZ; Klucel JA; Klucel JB; Klucel JC; Klucel JD; Klucel JE; Klucel JF; Klucel JG; Klucel JH; Klucel JI; Klucel JJ; Klucel JK; Klucel JL; Klucel JM; Klucel JN; Klucel JO; Klucel JP; Klucel JQ; Klucel JR; Klucel JS; Klucel JT; Klucel JU; Klucel JV; Klucel JW; Klucel JX; Klucel JY; Klucel JZ; Klucel KA; Klucel KB; Klucel KC; Klucel KD; Klucel KE; Klucel KF; Klucel KG; Klucel KH; Klucel KI; Klucel KJ; Klucel KK; Klucel KL; Klucel KM; Klucel KN; Klucel KO; Klucel KP; Klucel KQ; Klucel KR; Klucel KS; Klucel KT; Klucel KU; Klucel KV; Klucel KW; Klucel KX; Klucel KY; Klucel KZ; Klucel LA; Klucel LB; 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Klucel OS; Klucel OT; Klucel OU; Klucel OV; Klucel OW; Klucel OX; Klucel OY; Klucel OZ; Klucel PA; Klucel PB; Klucel PC; Klucel PD; Klucel PE; Klucel PF; Klucel PG; Klucel PH; Klucel PI; Klucel PJ; Klucel PK; Klucel PL; Klucel PM; Klucel PN; Klucel PO; Klucel PP; Klucel PQ; Klucel PR; Klucel PS; Klucel PT; Klucel PU; Klucel PV; Klucel PW; Klucel PX; Klucel PY; Klucel PZ; Klucel QA; Klucel QB; Klucel QC; Klucel QD; Klucel QE; Klucel QF; Klucel QG; Klucel QH; Klucel QI; Klucel QJ; Klucel QK; Klucel QL; Klucel QM; Klucel QN; Klucel QO; Klucel QP; Klucel QQ; Klucel QR; Klucel QS; Klucel QT; Klucel QU; Klucel QV; Klucel QW; Klucel QX; Klucel QY; Klucel QZ; Klucel RA; Klucel RB; Klucel RC; Klucel RD; Klucel RE; Klucel RF; Klucel RG; Klucel RH; Klucel RI; Klucel RJ; Klucel RK; Klucel RL; Klucel RM; Klucel RN; Klucel RO; Klucel RP; Klucel RQ; Klucel RR; Klucel RS; Klucel RT; Klucel RU; Klucel RV; Klucel RW; Klucel RX; Klucel RY; Klucel RZ; Klucel SA; Klucel SB; Klucel SC; Klucel SD; Klucel SE; 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Klucel ZK; Klucel ZL; Klucel ZM; Klucel ZN; Klucel ZO; Klucel ZP; Klucel ZQ; Klucel ZR; Klucel ZS; Klucel ZT; Klucel ZU; Klucel ZV; Klucel ZW; Klucel ZX; Klucel ZY; Klucel ZZ.

3.2 Mixtures

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice

If medical attention is required, show this safety data sheet to the doctor.

If Inhaled

If inhaled, move person to fresh air. If not breathing, give artificial respiration and consult a physician.

In Case of Skin Contact

Wash affected area with soap and water. Consult a physician if any exposure symptoms are observed.

In Case of Eye Contact

Immediately rinse eyes with plenty of water for at least 15 minutes. Consult a physician.

If Swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless advised to do so by a physician or Poison Control Center. Seek medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

No data available.

5. FIREFIGHTING MEASURES

5.1 Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special Hazards Arising from the Substance or Mixture

No data available

5.3 Advice for Firefighters

Wear self contained breathing apparatus for fire fighting if necessary. Use personal protection equipment.

5.4 Further Information

No data available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Avoid contact with skin, eyes or clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.

Storage conditions: 20°C

7.3 Specific End Uses

For scientific research and development only. Not for use in humans or animals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Contains no components with established occupational exposure limits.

8.2 Exposure Controls

Appropriate Engineering Controls

A laboratory fumehood or other appropriate form of local exhaust ventilation should be used to avoid exposure.

Personal Protective Equipment

All recommendations below are advisory in nature and a risk assessment should be performed by the employer/end user prior to use of this product. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.

Eye/Face Protection

Safety goggles or face shield. All equipment should have been tested and approved under appropriate standards, such as NIOSH (US), CSA (Canada), or EN 166 (EU).

Skin Protection

Gloves should be used when handling this material. Gloves are to be inspected prior to use. Contaminated gloves are to be removed using proper glove removal technique so that the outer surface of the glove does not contact bare skin. Dispose of contaminated gloves after use in compliance with good laboratory practices and local requirements.

Gloves used for incidental exposures (splash protection) should be designated as "chemical resistant" by EU standard EN 374 with the resistance codes corresponding to the anticipated use of the material. Unrated gloves are not recommended.

Suggested gloves: AnsellPro Sol-Vex nitrile gloves style 37-175, 15 mil thickness.

Penetration time has not been determined.

Gloves used for prolonged direct exposure (immersion) should be designated "chemical resistant" as per EN 374 with the resistance codes corresponding to the anticipated use of the material.

Suggested gloves: AnsellPro Viton/Butyl gloves style 38-612, 4/8 mil thickness.

Penetration time has not been determined.

These recommendations may not apply if the material is mixed with any other chemical, or dissolved into a solution. A risk assessment must be performed to ensure the gloves will still offer acceptable protection.

Body Protection

Fire resistant (Nomex) lab coat or coveralls.

Respiratory Protection

Recommended respirators are NIOSH-approved N100 or CEN-approved FFP3 particulate respirators. These are to be only used as a backup to local exhaust ventilation or other engineering controls. If the respirator is the only means of protection, a full-face supplied air respirator must be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

A) Appearance

White to Off-White Solid

C) Odour Threshold

No data available

E) Melting Point/Freezing Point

>170°C (dec.)

G) Flash point

No data available

I) Flammability (Solid/Gas)

No data available

K) Vapour Pressure

No data available

M) Relative Density

No data available

O) Partition Coefficient: n-octanol/water

No data available

Q) Decomposition Temperature

No data available

S) Explosive Properties

No data available

B) Odour

No data available

D) pH

No data available

F) Initial Boiling Point/Boiling Range

No data available

H) Evaporation Rate

No data available

J) Upper/Lower Flammability/Explosive Limits

No data available

L) Vapour Density

No data available

N) Solubility

Water (Slightly, Heated)

P) Auto-Ignition Temperature

No data available

R) Viscosity

No data available

T) Oxidizing Properties

No data available

9.2 Other Information

no data available

10. STABILITY AND REACTIVITY**10.1 Reactivity**

No data available.

10.2 Chemical Stability

Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

No data available.

10.4 Conditions to Avoid

No data available.

10.5 Incompatible Materials

Strong oxidizing agents.

10.6 Hazardous Decomposition Products

In the event of fire: See section 5. Other decomposition products: No data available.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects****A) Acute Toxicity**

Oral LD50: Rat - 10,200 mg/kg

Inhalation LC50: No data available.

Dermal LD50: No data available.

B) Skin Corrosion/Irritation

No data available

C) Serious Eye Damage/Irritation

No data available

D) Respiratory or Skin Sensitization

No data available

E) Germ Cell Mutagenicity

No data available

F) Carcinogenicity

No data available

G) Reproductive Toxicity/Teratogenicity

No data available

H) Single Target Organ Toxicity - Single Exposure

No data available

I) Single Target Organ Toxicity - Repeated Exposure

No data available

J) Aspiration Hazard

No data available

K) Potential Health Effects and Routes of Exposure**Inhalation**

May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion

May be harmful if swallowed.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

L) Signs and Symptoms of Exposure

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.

To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated.

M) Additional Information

RTECS: NF9050000

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

No data available.

12.2 Persistence and Degradability

No data available.

12.3 Bioaccumulative Potential

No data available.

12.4 Mobility in Soil

No data available.

12.5 Results of PBT and vPvB Assessment

No data available.

12.6 Other Adverse Effects

No data available.

13. DISPOSAL CONSIDERATIONS**13.1 Waste Treatment Methods****A) Product**

Product may be burned in an incinerator equipped with afterburner and scrubber. Excess and expired materials are to be offered to a licensed hazardous material disposal company. Ensure that all Federal and Local regulations regarding the disposal and destruction of this material are followed.

B) Contaminated Packaging

Dispose of as above.

C) Other Considerations

Product is not to be disposed of in sanitary sewers, storm sewers, or landfills.

14. TRANSPORT INFORMATION**14.1 UN Number**

DOT (US): N/A

IATA: N/A

IMDG: N/A

ADR/RID: N/A

14.2 UN Proper Shipping Name

DOT (US)/IATA:

Not dangerous goods.

IMDG/ARD/RID:

Not dangerous goods.

14.3 Transport Hazard Class(es)

DOT (US): N/A

IATA: N/A

IMDG: N/A

ADR/RID: N/A

14.4 Packing Group

DOT (US): N/A

IATA: N/A

IMDG: N/A

ADR/RID: N/A

14.5 Environmental Hazards

DOT (US): None

IATA: None

IMDG: None

ADR/RID: None

14.6 Special Precautions for User

None

15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of WHMIS (Canada), OSHA 1910.1200 (US), and EU Regulation EC No. 1907/2006 (European Union).

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**A) Canada**

DSL/NDSL Status: This product or a component of this product is registered on the Canadian DSL/NDSL.

B) United States

TSCA Status: This product or a component is listed on the US EPA TSCA.

C) European Union

ECHA Status: This product is not registered with the EU ECHA.

15.2 Chemical Safety Assessment

No data available

16. OTHER INFORMATION**16.1 Revision History**

Original Publication Date: 11/13/2015

16.2 List of Abbreviations

LD50	Median lethal dose of a substance required to kill 50% of a test population.
LC50	Medial lethal concentration of a substance required to kill 50% of a test population.
LDLo	Lowest known lethal dose

TDLo	Lowest known toxic dose
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances

16.3 Further Information

Copyright 2015. Toronto Research Chemicals Inc. Copies may be made for internal use only. The above information is believed to be correct to the best of our knowledge, but is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.