



Safety Data Sheet

Canada

Section 1. Identification

Product name

HSB 2011 Agarose, 20 kg

Catalogue Number

BABC616398-1



9 0 B A B C 6 1 6 3 9 8 1

Chemical name

Agarose

Synonym

Agarose gel beads; Sepharose; (2S,3R,4S,5R,6R)-2-[[[(1S,3S,4S,5S,8R)-3-[(2S,3R,4S,5S,6R)-2-[(1S,3R,4S,5S,8R)-3,4-dihydroxy-2,6-dioxabicyclo[3.2.1]octan-8-yl]oxy]-3,5-dihydroxy-6-(hydroxymethyl)oxan-4-yl]oxy-4-hydroxy-2,6-dioxabicyclo[3.2.1]octan-8-yl]oxy]-6-(hydroxymethyl)oxane-3,4,5-triol

Product type

Powder.

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

For further manufacturing.
Liquid chromatography.
Manufacture of chemical products.
Scientific research and development

Consumer use

-

Supplier Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Importer Cytiva Canada
250 Howe Street, Suite 1400-C
Vancouver, British Columbia, Canada, V6C 3S7
1 800 463 5800

In case of emergency

INFOTRAC
Outside of the United States, call 24 Hour number: 001-352-323-3500 (Call Collect)
In the United States, call 24 Hour number: 1-800-535-5053

Section 2. Hazard identification

Classification of the substance or mixture COMBUSTIBLE DUSTS - Category 1

GHS label elements

Signal word

Warning

Hazard statements

May form combustible dust concentrations in air.

Precautionary statements

Prevention

Not applicable.

Response

Not applicable.

Storage

Not applicable.

Disposal

Not applicable.

Supplemental label elements

Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.



9 5 2 9 9 6 7 6 4 6

Section 3. Composition/information on ingredients

Substance/mixture	Substance
Chemical name	Agarose
Other means of identification	Agarose gel beads; Sepharose; (2S,3R,4S,5R,6R)-2-[[[(1S,3S,4S,5S,8R)-3-[(2S,3R,4S,5S,6R)-2-[(1S,3R,4S,5S,8R)-3,4-dihydroxy-2,6-dioxabicyclo[3.2.1]octan-8-yl]oxy]-3,5-dihydroxy-6-(hydroxymethyl)oxan-4-yl]oxy-4-hydroxy-2,6-dioxabicyclo[3.2.1]octan-8-yl]oxy]-6-(hydroxymethyl)oxane-3,4,5-triol

Ingredient name	Synonyms	% (w/w)	CAS number
Sepharose	Agarose gel beads; Sepharose; (2S,3R,4S,5R,6R)-2-[[[(1S,3S,4S,5S,8R)-3-[(2S,3R,4S,5S,6R)-2-[(1S,3R,4S,5S,8R)-3,4-dihydroxy-2,6-dioxabicyclo[3.2.1]octan-8-yl]oxy]-3,5-dihydroxy-6-(hydroxymethyl)oxan-4-yl]oxy-4-hydroxy-2,6-dioxabicyclo[3.2.1]octan-8-yl]oxy]-6-(hydroxymethyl)oxane-3,4,5-triol	100	CAS: 9012-36-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: irritation redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact	No specific data.
Ingestion	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)



Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Use dry chemical powder.
Unsuitable extinguishing media	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
Specific hazards arising from the chemical	May form explosible dust-air mixture if dispersed.
Hazardous thermal decomposition products	No specific data.
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.



Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 4 to 30°C (39.2 to 86°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection**Control parameters****Occupational exposure limits**

None.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures**Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: safety glasses with side-shields.

Skin protection**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): nitrile rubber

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: No special recommendations.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: No special recommendations.

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Wear appropriate respiratory protection.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	Solid. [Powder.]
Color	White.
Odor	Odorless.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	60 to 90°C (140 to 194°F)



Boiling point or initial boiling point and boiling range	Decomposes						
Flash point	[Product does not sustain combustion.]						
Burning time	Not available.						
Burning rate	Not available.						
Evaporation rate	Not available.						
Flammability	Not available.						
Lower and upper explosive (flammable) limits	Not applicable.						
Vapor pressure	Not available.						
Relative vapor density	Not applicable.						
Relative density	Not available.						
Density	1.49 g/cm ³						
Solubility(ies)							
	<table> <tr> <th>Media</th><th>Result</th></tr> <tr> <td>cold water</td><td>Partially soluble</td></tr> <tr> <td>hot water</td><td>Soluble</td></tr> </table>	Media	Result	cold water	Partially soluble	hot water	Soluble
Media	Result						
cold water	Partially soluble						
hot water	Soluble						
Solubility in water	Not available.						
Partition coefficient: n-octanol/ water	Not available.						
Auto-ignition temperature	Not applicable.						
Decomposition temperature	Not available.						
SADT	Not available.						
Viscosity	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.						
Flow time (ISO 2431)	Not available.						
<u>Particle characteristics</u>							
Median particle size	Not available.						

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Conclusion/Summary [Product]	Not available.
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Skin corrosion/irritation

Not available.

Conclusion/Summary [Product]	Not available.
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Serious eye damage/eye irritation



Not available.

**Conclusion/Summary
[Product]**

Not available.

Respiratory corrosion/irritation

Not available.

**Conclusion/Summary
[Product]**

Not available.

Respiratory or skin sensitization

Not available.

Skin

**Conclusion/Summary
[Product]**

Not available.

Respiratory

**Conclusion/Summary
[Product]**

Not available.

Germ cell mutagenicity

Not available.

**Conclusion/Summary
[Product]**

Not available.

Carcinogenicity

Not available.

**Conclusion/Summary
[Product]**

Not available.

Reproductive toxicity

Not available.

**Conclusion/Summary
[Product]**

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

**Information on the likely routes
of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact

Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.



Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: irritation redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact	No specific data.
Ingestion	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Long term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product]	Not available.
General	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Reproductive toxicity	No known significant effects or critical hazards.

Numerical measures of toxicity**Acute toxicity estimates**

N/A

Section 12. Ecological information**Toxicity**

Not available.

Conclusion/Summary [Product]	Not available.
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Persistence and degradability

Not available.

Conclusion/Summary [Product]	Not available.
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Bioaccumulative potential

Not available.

Mobility in soil

Soil/Water partition coefficient	Not available.
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Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	DOT Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments

Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI This material is not listed.

CEPA Toxic substances This material is not listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Canada This material is listed or exempted.



United States

This material is active or exempted.

Section 16. Other information**History**

Date of printing 9/10/2025
Date of issue/Date of revision 9/10/2025
Date of previous issue 10/20/2022
Version 2

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Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HPR = Hazardous Products Regulations
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
UN = United Nations

Procedure used to derive the classification

Classification	Justification
COMBUSTIBLE DUSTS - Category 1	Regulatory data

References

Not available.



Indicates information that has changed from previously issued version.

Notice to reader

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