SAFETY DATA SHEET

Agilent Technologies

Polaris Si and NH2 LC Columns with less than 10 ml solvent

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

1.1 Product identifier

Product name : Polaris Si and NH2 LC Columns with less than 10 ml solvent

Part no. : A2003020X020, A2003030X020, A2003050G100, A2003050X030, A2003050X046, A2003100X020, A2003100X030, A2003100X046, A2003125X040, A2003125X046, A2003150X020, A2003150X021, A2003150X030, A2003150X040, A2003150X046, A2003150X100, A2003250X020, A2003250X021, A2003250X030, A2003250X040, A2003250X046, A2003MG, A2003MG2, A2004150X039, A2004250X046, A2004MG, A2004MG2, A2005020X020, A2005030X020, A2005030X021, A2005050X020, A2005050X021, A2005050X030, A2005050X046, A2005100X020, A2005100X030, A2005100X046, A2005150X020, A2005150X030, A2005150X046, A2005250X020, A2005250X030, A2005250X046, A2005MG, A2005MG2, A2013020X020, A2013030X020, A2013050G100, A2013050X020, A2013050X046, A2013100X020, A2013100X030, A2013100X046, A2013125X040, A2013150X020, A2013150X030, A2013150X039, A2013150X040, A2013150X046, A2013250X020, A2013250X021, A2013250X030, A2013250X046, A2013MG, A2013MG2, A2014020X020, A2014030X020, A2014030X021, A2014050X020, A2014050X021, A2014050X030, A2014050X046, A2014100X020, A2014100X021, A2014100X030, A2014100X046, A2014150X020, A2014150X030, A2014150X046, A2014250X020, A2014250X030, A2014250X046, A2014MG, A2014MG2, 79925CN-564, 79925CN-584, 79925DI-564, 79925DI-584, 79925MO-58K, 79925OD-58K, 79925SI-584

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

Identified uses : Analytical chemistry.
HPLC column
Solvent volume:<10 ml

A2003020X020	Polaris 5 Si 20 x 2.0mm, 0.1 ml tube, 0.04 ml solvent
A2003030X020	Polaris 5 Si 30 x 2.0mm, 0.1 ml tube, 0.06 ml solvent
A2003050G100	Polaris 5 Si-A 50 X 10.0mm Guard, 3.9 ml tube, 2.36 ml solvent
A2003050X030	Polaris 5 Si 50 x 3.0mm, 0.4 ml tube, 0.21 ml solvent
A2003050X046	Polaris 5 Si 50 x 4.6mm, 0.8 ml tube, 0.05 ml solvent
A2003100X020	Polaris 5 Si 100 x 2.0mm, 0.3 ml tube, 0.19 ml solvent
A2003100X030	Polaris 5 Si 100 x 3.0mm, 0.7 ml tube, 0.42 ml solvent
A2003100X046	Polaris 5 Si 100 x 4.6mm, 1.7 ml tube, 1.00 ml solvent
A2003125X040	Polaris 5 Si 125 x 4.0mm, 1.6 ml tube, 0.94 ml solvent
A2003125X046	Polaris 5 Si 125 x 4.6mm, 2.1 ml tube, 1.25 ml solvent
A2003150X020	Polaris 5 Si 150 x 2.0mm, 0.5 ml tube, 0.28 ml solvent
A2003150X021	Polaris 5 Si 150 x 2.1mm, 0.5 ml tube, 0.31 ml solvent
A2003150X030	Polaris 5 Si 150 x 3.0mm, 1.1 ml tube, 0.64 ml solvent
A2003150X040	Polaris 5 Si 150 x 4.0mm, 1.9 ml tube, 1.13 ml solvent
A2003150X046	Polaris 5 Si 150 x 4.6mm, 2.5 ml tube, 1.50 ml solvent
A2003150X100	Polaris 5 Si 150 x 10.0mm, 12 ml tube, 7.07 ml solvent
A2003250X020	Polaris 5 Si 250 x 2.0mm, 0.8 ml tube, 0.047 ml solvent
A2003250X021	Polaris 5 Si 250 x 2.1mm, 0.9 ml tube, 0.52 ml solvent
A2003250X030	Polaris 5 Si 250 x 3.0mm, 1.8 ml tube, 1.06 ml solvent
A2003250X040	Polaris 5 Si 250 x 4.0mm, 3.1 ml tube, 1.88 ml solvent
A2003250X046	Polaris 5 Si 250 x 4.6mm, 4.2 ml tube, 2.49 ml solvent
A2003MG	MetaGuard 4.6mm Polaris Si-A 5u, 0.2 ml tube, 0.10 ml solvent
A2003MG2	MetaGuard 2.0mm Polaris Si-A 5u, 0.03 ml tube, 0.02 ml solvent
A2004150X039	Polaris 10 Si 150 x 3.9mm, 1.8 ml tube, 1.08 ml solvent
A2004250X046	Polaris 10 Si 250 x 4.6mm, 4.2 ml tube, 2.49 ml solvent
A2004MG	MetaGuard 4.6mm Polaris Si-A 10u, 0.2 ml tube, 0.10 ml solvent
A2004MG2	MetaGuard 2.0mm Polaris Si-A 10u, 0.03 ml tube, 0.02 ml solvent
A2005020X020	Polaris 3 Si 20 x 2.0mm, 0.1 ml tube, 0.04 ml solvent

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A2005030X020	Polaris 3 Si 30 x 2.0mm, 0.1 ml tube, 0.06 ml solvent
A2005030X021	Polaris 3 Si 30 x 2.1mm, 0.1 ml tube, 0.06 ml solvent
A2005050X020	Polaris 3 Si 50 x 2.0mm, 0.2 ml tube, 0.09 ml solvent
A2005050X021	Polaris 3 Si 50 x 2.1mm, 0.2 ml tube, 0.10 ml solvent
A2005050X030	Polaris 3 Si 50 x 3.0mm, 0.4 ml tube, 0.21 ml solvent
A2005050X046	Polaris 3 Si 50 x 4.6mm, 0.8 ml tube, 0.50 ml solvent
A2005100X020	Polaris 3 Si 100 x 2.0mm, 0.3 ml tube, 0.19 ml solvent
A2005100X030	Polaris 3 Si 100 x 3.0mm, 0.7 ml tube, 0.42 ml solvent
A2005100X046	Polaris 3 Si 100 x 4.6mm, 1.7 ml tube, 1.00 ml solvent
A2005150X020	Polaris 3 Si 150 x 2.0mm, 0.5 ml tube, 0.28 ml solvent
A2005150X030	Polaris 3 Si 150 x 3.0mm, 1.1 ml tube, 0.64 ml solvent
A2005150X046	Polaris 3 Si 150 x 4.6mm, 2.5 ml tube, 1.50 ml solvent
A2005250X020	Polaris 3 Si 250 x 2.0mm, 0.8 ml tube, 0.47 ml solvent
A2005250X030	Polaris 3 Si 250 x 3.0mm, 1.8 ml tube, 1.06 ml solvent
A2005250X046	Polaris 3 Si 250 x 4.6mm, 4.2 ml tube, 2.49 ml solvent
A2005MG	MetaGuard 4.6mm Polaris Si-A 3u, 0.2 ml tube, 0.10 ml solvent
A2005MG2	MetaGuard 2.0mm Polaris Si-A 3u, 0.03 ml tube, 0.02 ml solvent
A2013020X020	Polaris 5 NH2 20 x 2.0mm, 0.1 ml tube, 0.04 ml solvent
A2013030X020	Polaris 5 NH2 30 x 2.0mm, 0.1 ml tube, 0.06 ml solvent
A2013050G100	Polaris NH2 5u 50 x 10.0mm Guard, 3.9 ml tube, 2.36 ml solvent
A2013050X020	Polaris 5 NH2 50 x 2.0mm, 0.2 ml tube, 0.09 ml solvent
A2013050X046	Polaris 5 NH2 50 x 4.6mm, 0.8 ml tube, 0.50 ml solvent
A2013100X020	Polaris 5 NH2 100 x 2.0mm, 0.3 ml tube, 0.19 ml solvent
A2013100X030	Polaris 5 NH2 100 x 3.0mm, 0.7 ml tube, 0.42 ml solvent
A2013100X046	Polaris 5 NH2 100 x 4.6mm, 1.7 ml tube, 1.00 ml solvent
A2013125X040	Polaris 5 NH2 125 x 4.0mm, 1.6 ml tube, 0.94 ml solvent
A2013150X020	Polaris 5 NH2 150 x 2.0mm, 0.5 ml tube, 0.28 ml solvent
A2013150X030	Polaris 5 NH2 150 x 3.0mm, 1.1 ml tube, 0.64 ml solvent
A2013150X039	Polaris 5 NH2 150 x 3.9mm, 1.8 ml tube, 1.06 ml solvent
A2013150X040	Polaris 5 NH2 150 x 4.0mm, 1.9 ml tube, 1.13 ml solvent
A2013150X046	Polaris 5 NH2 150 x 4.6mm, 2.5 ml tube, 1.50 ml solvent
A2013250X020	Polaris 5 NH2 250 x 2.0mm, 0.8 ml tube, 0.47 ml solvent
A2013250X021	Polaris 5 NH2 250 x 2.1mm, 0.9 ml tube, 0.52 ml solvent
A2013250X030	Polaris 5 NH2 250 x 3.0mm, 1.8 ml tube, 1.08 ml solvent
A2013250X046	Polaris 5 NH2 250 x 4.6mm, 4.2 ml tube, 2.49 ml solvent
A2013MG	MetaGuard 4.6mm Polaris NH2 5u, 0.2 ml tube, 0.10 ml solvent
A2013MG2	MetaGuard 2.0mm Polaris NH2 5u, 0.03 ml tube, 0.02 ml solvent
A2014020X020	Polaris 3 NH2 20 x 2.0mm, 0.1 ml tube, 0.04 ml solvent
A2014030X020	Polaris 3 NH2 30 x 2.0mm, 0.1 ml tube, 0.06 ml solvent
A2014030X021	Polaris 3 NH2 30 x 2.1mm, 0.1 ml tube, 0.06 ml solvent
A2014050X020	Polaris 3 NH2 50 x 2.0mm, 0.2 ml tube, 0.09 ml solvent
A2014050X021	Polaris 3 NH2 50 x 2.1mm, 0.2 ml tube, 0.10 ml solvent
A2014050X030	Polaris 3 NH2 50 x 3.0mm, 0.4 ml tube, 0.21 ml solvent
A2014050X046	Polaris 3 NH2 50 x 4.6mm, 0.8 ml tube, 0.50 ml solvent
A2014100X020	Polaris 3 NH2 100 x 2.0mm, 0.3 ml tube, 0.19 ml solvent
A2014100X021	Polaris 3 NH2 100 x 2.1mm, 0.3 ml tube, 0.21 ml solvent
A2014100X030	Polaris 3 NH2 100 x 3.0mm, 0.7 ml tube, 0.42 ml solvent
A2014100X046	Polaris 3 NH2 100 x 4.6mm, 1.7 ml tube, 1.00 ml solvent
A2014150X020	Polaris 3 NH2 150 x 2.0mm, 0.5 ml tube, 0.28 ml solvent
A2014150X030	Polaris 3 NH2 150 x 3.0mm, 1.1 ml tube, 0.64 ml solvent
A2014150X046	Polaris 3 NH2 150 x 4.6mm, 2.5 ml tube, 1.50 ml solvent
A2014250X020	Polaris 3 NH2 250 x 2.0mm, 0.8 ml tube, 0.47 ml solvent
A2014250X030	Polaris 3 NH2 250 x 3.0mm, 1.8 ml tube, 1.06 ml solvent
A2014250X046	Polaris 3 NH2 250 x 4.6mm, 4.2 ml tube, 2.49 ml solvent
A2014MG	MetaGuard 4.6mm Polaris NH2 3u, 0.2 ml tube, 0.10 ml solvent
A2014MG2	MetaGuard 2.0mm Polaris NH2 3u, 0.03 ml tube, 0.02 ml solvent
79925CN-564	LiChrospher 100 CN 5um 125 x 4 mm Crtdg Col
79925CN-584	LiChrospher 100 CN 5um 250 x 4 mm Crtdg Col
79925DI-564	LiChrospher 100 Diol 5um 125 x 4 mm Crtdg Col

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79925DI-584	LiChrospher 100 Diol 5um 250 x 4 mm Crtdg Col
79925MO-58K	LiChrospher C-8 5um 250 x 4 mm 3/PK
79925OD-58K	LiChrospher C18 5um 250 x 4 mm 3/PK
79925SI-584	LiChrospher 60Si 5um 250 x 4 mm Crtdg Col

Uses advised against : None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +353 1 901 4670

SECTION 2: Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

2.1 Classification of the substance or mixture

Product definition : Mixture (encapsulated in article)

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H225	FLAMMABLE LIQUIDS	Category 2
H315	SKIN CORROSION/IRRITATION	Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects)	Category 3
H304	ASPIRATION HAZARD	Category 1
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H410	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 1

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H225 - Highly flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention :
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 - Avoid release to the environment.

SECTION 2: Hazards identification

Response : P391 - Collect spillage.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.

Storage : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : heptane

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

3.1 Substances : Mixture (encapsulated in article)

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
heptane	EC: 205-563-8 CAS: 142-82-5 Index: 601-008-00-2	≥25 - ≤50	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1] [2]
propan-2-ol	EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	≤3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 **See Section 16 for the full text of the H statements declared above.**	-	[1] [2]

Contains: Organosilane bonded silica gel.
Note: To the best of our knowledge, the acute and chronic toxicological properties of bonded silica gels have not been investigated. This product contains synthetic amorphous silica, and should not be confused with crystalline silica such as quartz, cristobalite, or tridymite, or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms of silica.

SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of 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. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

SECTION 4: First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

5.3 Advice for firefighters

Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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".

6.2 Environmental precautions : Avoid dispersal of spilt 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not swallow.

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.

7.2 Conditions for safe storage, including any incompatibilities

Storage : 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. Store locked up. Eliminate all ignition sources. Separate from oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c E1	5000 tonnes 100 tonnes	50000 tonnes 200 tonnes

7.3 Specific end use(s)

Recommendations : Industrial applications, Professional applications.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
heptane	**NAOSH (Ireland, 4/2024)** Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 500 ppm. OELV 8 hours: 2085 mg/m³. **EU OEL (Europe, 1/2022)** TWA 8 hours: 500 ppm. TWA 8 hours: 2085 mg/m³.
propan-2-ol	**NAOSH (Ireland, 4/2024)** Absorbed through skin. Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV 8 hours: 200 ppm. OELV 15 minutes: 400 ppm.

Biological exposure indices

Product/ingredient name	Exposure indices
propan-2-ol	**NAOSH (Ireland, 1/2011)** BMGV: 40 mg/l, acetone [in urine]. Sampling time: end of shift at end of workweek.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Result	
heptane	DNEL - General population - Long term - Oral	149 mg/kg bw/day
	DNEL - General population - Long term - Dermal	149 mg/kg bw/day
	DNEL - Workers - Long term - Dermal	300 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	447 mg/m³
	DNEL - Workers - Long term - Inhalation	2085 mg/m³
propan-2-ol	DNEL - Workers - Long term - Inhalation	500 mg/m³
	DNEL - Workers - Long term - Dermal	888 mg/kg bw/day
	DNEL - General population - Long term - Oral	26 mg/kg bw/day
	DNEL - General population - Short term - Oral	51 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	89 mg/m³
	DNEL - General population - Short term - Inhalation	178 mg/m³
	DNEL - General population - Long term - Dermal	319 mg/kg bw/day
	DNEL - Workers - Short term - Inhalation	1000 mg/m³

PNECs

Not available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. 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, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

SECTION 8: Exposure controls/personal protection

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: chemical splash goggles.

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.

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

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.

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.

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.

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Solid. (containing flammable liquid)

Colour : Not available.

Odour : Not available.

Odour threshold : Not available.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : Not available.

Flammability : Contains: Flammable liquid.

Lower and upper explosion limit/ flammability limit : Not available.

Flash point : Closed cup: -18 to 23°C [Based on solvent.]

Auto-ignition temperature :

SECTION 9: Physical and chemical properties

Ingredient name	°C	Method
heptane	285	-
propan-2-ol	456	-

Decomposition temperature : Not available.

pH : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): Not available.

Solubility :

Media	Result
Mobile phase	Insoluble
Stationary phase	Insoluble

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
heptane	34.5028	4.6	-	-	-	-
propan-2-ol	33.00268	4.4	-	177	23.6	-

Relative density : Not available.

Relative vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

Evaporation rate : Not available.

Physical/chemical properties comments : Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials
Incompatible with hydrogen fluoride.

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
heptane	Rat - Inhalation - LC50 Vapour	103 g/m³ [4 hours]
	Rat - Inhalation - LC50 Vapour	48000 ppm [4 hours]
propan-2-ol	Rabbit - Dermal - LD50	12800 mg/kg
	Rat - Oral - LD50	5000 mg/kg

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
heptane	N/A	N/A	N/A	103	N/A
propan-2-ol	5000	12800	N/A	72.2	N/A

Skin corrosion/irritation

Product/ingredient name	Result	
propan-2-ol	Rabbit - Skin - Mild irritant	-

Conclusion/Summary [Product] : Repeated exposure may cause skin dryness or cracking.

Ingredient name	Conclusion/Summary
propan-2-ol	Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Product/ingredient name	Result	
propan-2-ol	Rabbit - Eyes - Moderate irritant	Duration of treatment/ exposure: 24 hours
	Rabbit - Eyes - Moderate irritant	-

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

SECTION 11: Toxicological information

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
heptane	STOT SE 3, H336 (Narcotic effects)
propan-2-ol	STOT SE 3, H336 (Narcotic effects)

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
Polaris Si and NH2 LC Columns with less than 10 ml solvent	ASPIRATION HAZARD - Category 1
heptane	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

SECTION 11: Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary [Product] : Not available.

General : No known significant effects or critical hazards.

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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	
heptane	Acute - LC50 - Fresh water	375 mg/l [96 hours]
propan-2-ol	Acute - LC50 - Marine water	1400 mg/l [48 hours]
	Acute - LC50 - Fresh water	4200 mg/l [96 hours]

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
heptane	-	-	Readily
propan-2-ol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
heptane	4.66	552	High
propan-2-ol	0.05	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
heptane	2.51	321.749
propan-2-ol	0.54	3.4364

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
heptane	No	No	No	No	No	No	No
propan-2-ol	No	No	No	No	No	No	No

Mobility : Not available.

SECTION 12: Ecological information

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
heptane	No	No	No	No	No	No	No
propan-2-ol	No	No	No	No	No	No	No

Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
heptane	No	No	No	No	No	No	No
propan-2-ol	No	No	No	No	No	No	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

Remarks: Special provisions
ADR/RID: 216
ADG: 216
IATA: A46
IMDG: 216

14.6 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.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

None of the components are listed / The components are not impacted by a restriction

Labelling : Not applicable.

Other EU regulations

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

SECTION 15: Regulatory information

Danger criteria

Category
P5c E1

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

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.

Japan : **Japan inventory (CSCL)**: All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.

New Zealand : All components are listed or exempted.

Philippines : Not determined.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : All components are listed or exempted.

United States : All components are active or exempted.

Viet Nam : Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
B = Bioaccumulative
BCF = Bioconcentration Factor
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods

SECTION 16: Other information

IMO = International Maritime Organization
M = Mobile
N/A = Not available
P = Persistent
PBT = Persistent, Bioaccumulative and Toxic
PMT = Persistent, Mobile and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SGG = Segregation Group
T = Toxic
vB = Very Bioaccumulative
vM = Very Mobile
vP = Very Persistent
vPvB = Very Persistent and Very Bioaccumulative
vPvM = Very Persistent and Very Mobile

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 2, H225	On basis of test data
Skin Irrit. 2, H315	Calculation method
STOT SE 3, H336	Calculation method
Asp. Tox. 1, H304	Expert judgment
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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