

SAFETY DATA SHEET



2.5mm Twin Cold ST Probe, SAMPL KIT, Part Number 192269600

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	: 2.5mm Twin Cold ST Probe, SAMPL KIT, Part Number 192269600		
Part No. (Kit)	: 192269600		
Part No.	: 1H Lineshape	192265589	
	Sucrose salt, NMR tested	192265514	
	Temp Grad	192265511	

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

Identified uses	
Analytical chemistry.	
1H Lineshape	270 µl
Sucrose salt, NMR tested	270 µl
Temp Grad	270 µl

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
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®: +(44)-870-8200418

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	: 1H Lineshape	Mixture (encapsulated in article)
	Sucrose salt, NMR tested	Mixture (encapsulated in article)
	Temp Grad	Mixture (encapsulated in article)

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

1H Lineshape

H225	FLAMMABLE LIQUIDS - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
H351	CARCINOGENICITY - Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H412	LONG-TERM AQUATIC HAZARD - Category 3

Classification according to Directive 1999/45/EC [DPD]

SECTION 2: Hazards identification

1H Lineshape	The product is classified as dangerous according to Directive 1999/45/EC and its amendments.
Sucrose salt, NMR tested	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Temp Grad	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	: 1H Lineshape	F; R11 Carc. Cat. 3; R40 Xn; R65 Xi; R36 R66, R67
	Sucrose salt, NMR tested	Not classified.
	Temp Grad	Not classified.
Physical/chemical hazards	: 1H Lineshape	Highly flammable.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.
Human health hazards	: 1H Lineshape	Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.

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

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

2.2 Label elements

Hazard pictograms	:	  
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Signal word	: 1H Lineshape	Danger
	Sucrose salt, NMR tested	No signal word.
	Temp Grad	No signal word.

Hazard statements	: 1H Lineshape	GHS02 - Highly flammable liquid and vapour. GHS07 - Causes serious eye irritation. May cause drowsiness or dizziness. GHS08 - Suspected of causing cancer. Harmful to aquatic life with long lasting effects.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.

Precautionary statements

Prevention	: 1H Lineshape	Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Avoid release to the environment.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.
Response	: 1H Lineshape	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.
Storage	: 1H Lineshape	Keep cool.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.

SECTION 2: Hazards identification

Disposal	: 1H Lineshape	Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.
Hazardous ingredients	: 1H Lineshape	
	(² H ₆)Acetone	
	Trichloromethane	
Supplemental label elements	: 1H Lineshape	Not applicable.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.
<u>Special packaging requirements</u>		
Tactile warning of danger	: 1H Lineshape	Not applicable.
	Sucrose salt, NMR tested	Not applicable.
	Temp Grad	Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	: 1H Lineshape	Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.
	Sucrose salt, NMR tested	None known.
	Temp Grad	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.

Substance/mixture	: 1H Lineshape	Mixture (encapsulated in article)
	Sucrose salt, NMR tested	Mixture (encapsulated in article)
	Temp Grad	Mixture (encapsulated in article)

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
1H Lineshape (² H ₆)Acetone	EC: 200-662-2 CAS: 666-52-4 Index: 606-001-00-8	>=90	F; R11 Xi; R36 R66, R67	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects) Aquatic Chronic 3, H412	[1] [2]
Trichloromethane	EC: 200-663-8 CAS: 67-66-3 Index: 602-006-00-4	>=1 - <5	Carc. Cat. 3; R40 Xn; R22, R48/20/22 Xi; R38	Acute Tox. 3, H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 and H336 (Respiratory tract irritation and Narcotic effects) STOT RE 2, H373 (heart, kidneys and liver) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
			See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.	

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

Type

SECTION 3: Composition/information on ingredients

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: 1H Lineshape	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.
	Sucrose salt, NMR tested	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.
	Temp Grad	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	: 1H Lineshape	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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Sucrose salt, NMR tested	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Temp Grad	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: 1H Lineshape	Wash skin thoroughly with soap and water or use recognised skin cleanser. 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.
	Sucrose salt, NMR tested	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Temp Grad	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: 1H Lineshape	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an

SECTION 4: First aid measures

		open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Sucrose salt, NMR tested	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if symptoms occur.
	Temp Grad	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if symptoms occur.
Protection of first-aiders	: 1H Lineshape	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.
	Sucrose salt, NMR tested	No action shall be taken involving any personal risk or without suitable training.
	Temp Grad	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Defatting to the skin. May cause skin dryness and irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Adverse symptoms may include the following: pain or irritation watering redness No specific data. No specific data.
Inhalation	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness No specific data. No specific data.

SECTION 4: First aid measures

Skin contact	: 1H Lineshape	Adverse symptoms may include the following: irritation dryness cracking
	Sucrose salt, NMR tested	No specific data.
	Temp Grad	No specific data.
Ingestion	: 1H Lineshape	No specific data.
	Sucrose salt, NMR tested	No specific data.
	Temp Grad	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 1H Lineshape	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Sucrose salt, NMR tested	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Temp Grad	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: 1H Lineshape	No specific treatment.
	Sucrose salt, NMR tested	No specific treatment.
	Temp Grad	No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media	: 1H Lineshape	Use dry chemical, CO ₂ , water spray (fog) or foam.
	Sucrose salt, NMR tested	Use an extinguishing agent suitable for the surrounding fire.
	Temp Grad	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: 1H Lineshape	Do not use water jet.
	Sucrose salt, NMR tested	None known.
	Temp Grad	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: 1H Lineshape	Highly flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is harmful 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.
	Sucrose salt, NMR tested	In a fire or if heated, a pressure increase will occur and the container may burst.
	Temp Grad	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: 1H Lineshape	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds carbonyl halides
	Sucrose salt, NMR tested	No specific data.
	Temp Grad	No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters	: 1H Lineshape	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.
	Sucrose salt, NMR tested	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.

SECTION 5: Firefighting measures

	Temp Grad	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.
Special protective equipment for fire-fighters	: 1H Lineshape	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.
	Sucrose salt, NMR tested	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.
	Temp Grad	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	: 1H Lineshape	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.
	Sucrose salt, NMR tested	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. Put on appropriate personal protective equipment.
	Temp Grad	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. Put on appropriate personal protective equipment.
For emergency responders	: 1H Lineshape	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".
	Sucrose salt, NMR tested	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".
	Temp Grad	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	: 1H Lineshape	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.
	Sucrose salt, NMR tested	Avoid dispersal of spilt material and runoff and contact with

SECTION 6: Accidental release measures

Temp Grad	soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). 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).
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6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : 1H Lineshape	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.
Sucrose salt, NMR tested	Stop leak if without risk. Move containers from spill area. 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.
Temp Grad	Stop leak if without risk. Move containers from spill area. 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 : 1H Lineshape	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
Sucrose salt, NMR tested	Put on appropriate personal protective equipment (see Section 8).
Temp Grad	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene : 1H Lineshape	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.
Sucrose salt, NMR tested	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,

SECTION 7: Handling and storage

	Temp Grad	drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. 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	: 1H Lineshape	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 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.
	Sucrose salt, NMR tested	Store in accordance with local regulations. 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. 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.
	Temp Grad	Store in accordance with local regulations. 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. 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.

7.3 Specific end use(s)

Recommendations	: 1H Lineshape	Industrial applications, Professional applications.
	Sucrose salt, NMR tested	Industrial applications, Professional applications.
	Temp Grad	Industrial applications, Professional applications.

Industrial sector specific solutions : Not applicable.

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
1H Lineshape (² H ₆)Acetone	EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values TWA: 500 ppm 8 hours. TWA: 1210 mg/m ³ 8 hours.
Trichloromethane	EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 10 mg/m ³ 8 hours.

SECTION 8: Exposure controls/personal protection

TWA: 2 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs 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.

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.

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 : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Liquid. Liquid. [Clear.] Liquid.
Colour	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Colourless.
Odour	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Odour threshold	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
pH	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Melting point/freezing point	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	-95°C 0°C 3.81°C
Initial boiling point and boiling range	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	55.5°C 100°C 101.42°C
Flash point	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Closed cup: -17°C Not available. Not available.
Evaporation rate	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Flammability (solid, gas)	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Upper/lower flammability or explosive limits	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Vapour pressure	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Vapour density	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Not available. Not available. Not available.
Relative density	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	0.872 Not available. 1.1

SECTION 9: Physical and chemical properties

Solubility(ies)	: 1H Lineshape	Easily soluble in the following materials: cold water, hot water and acetone.
	Sucrose salt, NMR tested	Easily soluble in the following materials: cold water and hot water.
	Temp Grad	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Auto-ignition temperature	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Decomposition temperature	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Viscosity	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Explosive properties	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: 1H Lineshape	No specific test data related to reactivity available for this product or its ingredients.
	Sucrose salt, NMR tested	No specific test data related to reactivity available for this product or its ingredients.
	Temp Grad	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: 1H Lineshape	The product is stable.
	Sucrose salt, NMR tested	The product is stable.
	Temp Grad	The product is stable.
10.3 Possibility of hazardous reactions	: 1H Lineshape	Under normal conditions of storage and use, hazardous reactions will not occur.
	Sucrose salt, NMR tested	Under normal conditions of storage and use, hazardous reactions will not occur.
	Temp Grad	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: 1H Lineshape	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.
	Sucrose salt, NMR tested	No specific data.
	Temp Grad	No specific data.
10.5 Incompatible materials	: 1H Lineshape	Reactive or incompatible with the following materials: oxidizing materials
	Sucrose salt, NMR tested	No specific data.
	Temp Grad	No specific data.

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products	: 1H Lineshape	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Sucrose salt, NMR tested	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Temp Grad	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	Species	Dose	Exposure
1H Lineshape (² H ₆)Acetone Trichloromethane	LD50 Oral	Rat	5800 mg/kg	-
	LC50 Inhalation Vapour	Rat	47702 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 mg/kg	-

Acute toxicity estimates

Route	ATE value
1H Lineshape Oral	30000 mg/kg
Temp Grad Dermal	426087 mg/kg

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
1H Lineshape (² H ₆)Acetone Trichloromethane	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
1H Lineshape (² H ₆)Acetone Trichloromethane	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
1H Lineshape Trichloromethane	Category 2	Not determined	heart, kidneys and liver

Aspiration hazard

Product/ingredient name	Result
1H Lineshape Trichloromethane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Defatting to the skin. May cause skin dryness and irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness No specific data. No specific data.
Ingestion	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	No specific data. No specific data. No specific data.
Skin contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Adverse symptoms may include the following: irritation dryness cracking No specific data. No specific data.
Eye contact	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	Adverse symptoms may include the following: pain or irritation watering redness No specific data. 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.

SECTION 11: Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: 1H Lineshape	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.
Carcinogenicity	: 1H Lineshape	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.
Mutagenicity	: 1H Lineshape	No known significant effects or critical hazards.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.
Teratogenicity	: 1H Lineshape	No known significant effects or critical hazards.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.
Developmental effects	: 1H Lineshape	No known significant effects or critical hazards.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.
Fertility effects	: 1H Lineshape	No known significant effects or critical hazards.
	Sucrose salt, NMR tested	No known significant effects or critical hazards.
	Temp Grad	No known significant effects or critical hazards.

Toxicokinetics

Absorption	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Distribution	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Metabolism	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.
Elimination	: 1H Lineshape	Not available.
	Sucrose salt, NMR tested	Not available.
	Temp Grad	Not available.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
1H Lineshape (² H ₆)Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 100000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Trichloromethane	Acute EC50 13.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 2.803 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours

SECTION 12: Ecological information

	Acute LC50 63800 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 13.3 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic EC10 3.61 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Chronic NOEC 6300 µg/l Fresh water	Daphnia - Daphnia magna	21 days

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
1H Lineshape (² H ₆)Acetone	-0.23	-	low
Trichloromethane	1.97	690	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

This Safety Data Sheet (EU_English) 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.

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

Additional information : **Remarks**
De minimis quantities

SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : 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

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 : For use in industrial installations only.

Other EU regulations

Europe inventory : All components are listed or exempted.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Listed

Integrated pollution prevention and control list (IPPC) - Air

Integrated pollution prevention and control list (IPPC) - Water : Not listed

Integrated pollution prevention and control list (IPPC) - Water

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
1H Lineshape Trichloromethane	Carc. 2, H351	-	-	-

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 : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

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

Classification	Justification
1H Lineshape Flam. Liq. 2, H225 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 (Narcotic effects) Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method

SECTION 16: Other information

Full text of abbreviated H statements	: 1H Lineshape H225 H301 H304 H315 H319 H335 and H336 (Respiratory tract irritation and Narcotic effects) H336 (Narcotic effects) H351 H373 (heart, kidneys and liver) H412	Highly flammable liquid and vapour. Toxic if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. (Respiratory tract irritation and Narcotic effects) May cause drowsiness or dizziness. (Narcotic effects) Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. (heart, kidneys and liver) Harmful to aquatic life with long lasting effects.
Full text of classifications [CLP/GHS]	: 1H Lineshape Acute Tox. 3, H301 Aquatic Chronic 3, H412 Asp. Tox. 1, H304 Carc. 2, H351 Eye Irrit. 2, H319 Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT RE 2, H373 (heart, kidneys and liver) STOT SE 3, H335 and H336 (Respiratory tract irritation and Narcotic effects) STOT SE 3, H336 (Narcotic effects)	ACUTE TOXICITY (oral) - Category 3 LONG-TERM AQUATIC HAZARD - Category 3 ASPIRATION HAZARD - Category 1 CARCINOGENICITY - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (heart, kidneys and liver) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Full text of abbreviated R phrases	: 1H Lineshape	R11- Highly flammable. R40- Limited evidence of a carcinogenic effect. R22- Harmful if swallowed. R48/20/22- Harmful: danger of serious damage to health in case of prolonged exposure through inhalation and if swallowed. R65- Harmful: may cause lung damage if swallowed. R36- Irritating to eyes. R38- Irritating to skin. R66- Repeated exposure may cause skin dryness or cracking. R67- Vapours may cause drowsiness and dizziness. Not applicable. Not applicable.
Full text of classifications [DSD/DPD]	: 1H Lineshape Sucrose salt, NMR tested Temp Grad	F - Highly flammable Carc. Cat. 3 - Carcinogen category 3 Xn - Harmful Xi - Irritant Not applicable. Not applicable.
Date of issue/ Date of revision	: 24/10/2013	
Date of previous issue	: 19/10/2011.	
Version	: 2	

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