

# SAFETY DATA SHEET



4mm Probe Sample Kit - IFC, Part Number 190350505

## Section 1. Identification

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

### 1.1 Product identifier

<b>Product name</b>	: 4mm Probe Sample Kit - IFC, Part Number 190350505		
<b>Part No. (Chemical Kit)</b>	: 190350505		
<b>Part No.</b>	: 4Hz 1% H2O/D2O		190835301
	Sodium Acetate		190835304
	1H S/N		190835370
	ID 1		190835396
	ID 2		190835397

**Validation date** : 12/30/2013.

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

<b>Material uses</b>	: Analytical chemistry.		
	4Hz 1% H2O/D2O		450 µl
	Sodium Acetate		450 µl
	1H S/N		450 µl
	ID 1		450 µl
	ID 2		450 µl

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 Logistics Center - Americas  
 500 Ships Landing Way  
 New Castle, Delaware 19720  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## 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

**OSHA/HCS status** : 4Hz 1% H2O/D2O

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Sodium Acetate

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this

## Section 2. Hazards identification

1H S/N	product. This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
ID 1	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
ID 2	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

#### 1H S/N

H302	ACUTE TOXICITY (oral) - Category 4
H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H351	CARCINOGENICITY - Category 2
H335 and H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

#### ID 1

H302	ACUTE TOXICITY (oral) - Category 4
H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H351	CARCINOGENICITY - Category 2
H335 and H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

#### ID 2

H227	FLAMMABLE LIQUIDS - Category 4
H320	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

<b>Ingredients of unknown toxicity</b>	: 4Hz 1% H2O/D2O	Not applicable.
	Sodium Acetate	Not applicable.
	1H S/N	Not applicable.
	ID 1	Not applicable.
	ID 2	Not applicable.

### 2.2 GHS label elements

#### Hazard pictograms



#### Signal word

: 4Hz 1% H2O/D2O	No signal word.
Sodium Acetate	No signal word.
1H S/N	Warning
ID 1	Warning
ID 2	Warning

## Section 2. Hazards identification

<b>Hazard statements</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	No known significant effects or critical hazards. No known significant effects or critical hazards. H302 - Harmful if swallowed. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H351 - Suspected of causing cancer. H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure.
	ID 1	H302 - Harmful if swallowed. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H351 - Suspected of causing cancer. H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure.
	ID 2	H227 - Combustible liquid. H320 - Causes eye irritation. H373 - May cause damage to organs through prolonged or repeated exposure.
 <b><u>Precautionary statements</u></b>		
<b>General</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Prevention</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	Not applicable. Not applicable. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P271 - Use only outdoors or in a well-ventilated area. P260 - Do not breathe vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
	ID 1	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P271 - Use only outdoors or in a well-ventilated area. P260 - Do not breathe vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
	ID 2	P280 - Wear protective gloves. Wear eye or face protection.

## Section 2. Hazards identification

### Response

: 4Hz 1% H2O/D2O  
Sodium Acetate  
1H S/N

ID 1

ID 2

P210 - Keep away from flames and hot surfaces. -  
No smoking.

P260 - Do not breathe vapor.

P264 - Wash hands thoroughly after handling.

Not applicable.

Not applicable.

P314 - Get medical attention if you feel unwell.

P308 + P313 - IF exposed or concerned: Get medical attention.

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.

P332 + P313 - If skin irritation occurs: Get medical attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical attention.

P314 - Get medical attention if you feel unwell.

P308 + P313 - IF exposed or concerned: Get medical attention.

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.

P332 + P313 - If skin irritation occurs: Get medical attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical attention.

P314 - Get medical attention if you feel unwell.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical attention.

## Section 2. Hazards identification

<b>Storage</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	Not applicable. Not applicable. P405 - Store locked up. P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.
<b>Disposal</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	None known. None known. None known. None known. None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	None known. None known. None known. None known. 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.

<b>Substance/mixture</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	Mixture Mixture Mixture Mixture Mixture
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Ingredient name	%	CAS number
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform Ethylbenzene	60 - 100 < 0.1	865-49-6 100-41-4
<b>ID 1</b> ( <sup>2</sup> H)Chloroform Iodomethane ( <sup>13</sup> C) Trimethyl phosphite	60 - 100 0.1 - 1 0.1 - 1	865-49-6 4227-95-6 121-45-9
<b>ID 2</b> di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide Benzamide ( <sup>15</sup> N)	60 - 100 1 - 5	2206-27-1 31656-62-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

## Section 3. Composition/information on ingredients

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.

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

<b>Eye contact</b>	: 4Hz 1% H2O/D2O	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.
	Sodium Acetate	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.
	1H S/N	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.
	ID 1	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.
	ID 2	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 following exposure or if feeling unwell.
<b>Inhalation</b>	: 4Hz 1% H2O/D2O	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Sodium Acetate	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	1H S/N	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.
	ID 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is

## Section 4. First aid measures

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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 following exposure or if feeling unwell. 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.

ID 2

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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.

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.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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.

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable

### Skin contact

: 4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O

Sodium Acetate

1H S/N

ID 1

ID 2

### Ingestion

: 4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O

Sodium Acetate

## Section 4. First aid measures

1H S/N

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.

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 open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

ID 1

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 open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

ID 2

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 following exposure or if feeling unwell. 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.

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects



## Section 4. First aid measures

<b>Eye contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Causes serious eye irritation. Causes serious eye irritation. Causes eye irritation.
<b>Inhalation</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
<b>Skin contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Causes skin irritation. Causes skin irritation. No known significant effects or critical hazards.
<b>Ingestion</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Harmful if swallowed. Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. Harmful if swallowed. Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. May be irritating to mouth, throat and stomach.
<b><u>Over-exposure signs/symptoms</u></b>		
<b>Eye contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No specific data. No specific data. Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: irritation watering redness
<b>Inhalation</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	No specific data. No specific data. Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness

## Section 4. First aid measures

	ID 1	Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
<b>Skin contact</b>	ID 2	No specific data.
	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N	No specific data. No specific data. Adverse symptoms may include the following: irritation redness
	ID 1	Adverse symptoms may include the following: irritation redness
<b>Ingestion</b>	ID 2	No specific data.
	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N	No specific data. No specific data. No specific data.
	ID 1	No specific data.
	ID 2	No specific data.

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

<b>Notes to physician</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Sodium Acetate	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	1H S/N	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.
	ID 1	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.
	ID 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No specific treatment.
	Sodium Acetate	No specific treatment.
	1H S/N	No specific treatment.
	ID 1	No specific treatment.
	ID 2	No specific treatment.
<b>Protection of first-aiders</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No action shall be taken involving any personal risk or without suitable training.
	Sodium Acetate	No action shall be taken involving any personal risk or without suitable training.
	1H S/N	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.

## Section 4. First aid measures

ID 1	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.
ID 2	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Use an extinguishing agent suitable for the surrounding fire.
	Sodium Acetate	Use an extinguishing agent suitable for the surrounding fire.
	1H S/N	Use an extinguishing agent suitable for the surrounding fire.
	ID 1	Use an extinguishing agent suitable for the surrounding fire.
	ID 2	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Unsuitable extinguishing media</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	None known.
	Sodium Acetate	None known.
	1H S/N	None known.
	ID 1	None known.
	ID 2	Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

<b>Specific hazards arising from the chemical</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	In a fire or if heated, a pressure increase will occur and the container may burst.
	Sodium Acetate	In a fire or if heated, a pressure increase will occur and the container may burst.
	1H S/N	In a fire or if heated, a pressure increase will occur and the container may burst.
	ID 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	ID 2	Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
<b>Hazardous thermal decomposition products</b>	: Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds carbonyl halides	

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

<b>Special protective actions for fire-fighters</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	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.
	Sodium Acetate	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.
	1H S/N	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.
	ID 1	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.
	ID 2	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.
<b>Special protective equipment for fire-fighters</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Sodium Acetate	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	1H S/N	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	ID 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	ID 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 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 spilled material. Do not breathe vapor 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".

## Section 6. Accidental release measures

<b>6.2 Environmental precautions</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Sodium Acetate	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	1H S/N	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	ID 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	ID 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	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.
Sodium Acetate	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.
1H S/N	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.
ID 1	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.
ID 2	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.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

## Section 7. Handling and storage

<b>Protective measures</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Put on appropriate personal protective equipment (see Section 8).
	Sodium Acetate	Put on appropriate personal protective equipment (see Section 8).
	1H S/N	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 breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	ID 1	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 breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	ID 2	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	: 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.	

## Section 7. Handling and storage

### 7.2 Conditions for safe storage, including any incompatibilities

: 4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O

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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

Sodium Acetate

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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

1H S/N

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. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

ID 1

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. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

ID 2

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

### 7.3 Specific end use(s)

## Section 7. Handling and storage

<b>Recommendations</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Industrial applications, Professional applications.
	Sodium Acetate	Industrial applications, Professional applications.
	1H S/N	Industrial applications, Professional applications.
	ID 1	Industrial applications, Professional applications.
	ID 2	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

Ingredient name	Exposure limits
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 10 ppm 8 hours. TWA: 49 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 2 ppm 8 hours. TWA: 9.78 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 6/2009).</b> STEL: 2 ppm 60 minutes. STEL: 9.78 mg/m <sup>3</sup> 60 minutes. <b>OSHA PEL (United States, 6/2010).</b> CEIL: 50 ppm CEIL: 240 mg/m <sup>3</sup>
Ethylbenzene	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 20 ppm 8 hours. <b>NIOSH REL (United States, 1/2013).</b> STEL: 545 mg/m <sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes. TWA: 435 mg/m <sup>3</sup> 10 hours. TWA: 100 ppm 10 hours. <b>OSHA PEL (United States, 6/2010).</b> TWA: 435 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> STEL: 545 mg/m <sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes. TWA: 435 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 10 ppm 8 hours. TWA: 49 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 2 ppm 8 hours. TWA: 9.78 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 6/2009).</b> STEL: 2 ppm 60 minutes. STEL: 9.78 mg/m <sup>3</sup> 60 minutes. <b>OSHA PEL (United States, 6/2010).</b> CEIL: 50 ppm



## Section 8. Exposure controls/personal protection

<p>Iodomethane (<sup>13</sup> C)</p>	<p>CEIL: 240 mg/m<sup>3</sup>  <b>ACGIH TLV (United States, 3/2012).</b>  <b>Absorbed through skin.</b>  TWA: 2 ppm 8 hours.  <b>OSHA PEL 1989 (United States, 3/1989).</b>  <b>Absorbed through skin.</b>  TWA: 2 ppm 8 hours.  TWA: 10 mg/m<sup>3</sup> 8 hours.  <b>NIOSH REL (United States, 6/2009).</b>  <b>Absorbed through skin.</b>  TWA: 2 ppm 10 hours.  TWA: 10 mg/m<sup>3</sup> 10 hours.  <b>OSHA PEL (United States, 6/2010).</b>  <b>Absorbed through skin.</b>  TWA: 5 ppm 8 hours.  TWA: 28 mg/m<sup>3</sup> 8 hours.</p>
<p>Trimethyl phosphite</p>	<p><b>ACGIH TLV (United States, 3/2012).</b>  TWA: 2 ppm 8 hours.  TWA: 10 mg/m<sup>3</sup> 8 hours.  <b>OSHA PEL 1989 (United States, 3/1989).</b>  TWA: 2 ppm 8 hours.  TWA: 10 mg/m<sup>3</sup> 8 hours.  <b>NIOSH REL (United States, 1/2013).</b>  TWA: 2 ppm 10 hours.  TWA: 10 mg/m<sup>3</sup> 10 hours.</p>
<p><b>ID 2</b>  di[(<sup>2</sup>H<sub>3</sub>)Methyl] sulphoxide</p>	<p><b>AIHA WEEL (United States, 10/2011).</b>  TWA: 250 ppm 8 hours.</p>

### 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.

#### Environmental exposure controls

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

### Individual protection measures

#### Hygiene measures

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

#### Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

## Section 8. Exposure controls/personal 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.

## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	Liquid. Liquid. Liquid. Liquid. Liquid. [Clear.]
<b>Color</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	Not available. Colorless. Not available. Not available. Colorless.
<b>Odor</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	Not available. Not available. Not available. Not available. Ripe olive.
<b>Odor threshold</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	Not available. Not available. Not available. Not available. Not available.
<b>pH</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	Not available. 7 Not available. Not available. Not available.
<b>Melting point</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	Not available. 3.81°C (38.9°F) -64°C (-83.2°F) -64°C (-83.2°F) 18 to 18.54°C (64.4 to 65.4°F)

## Section 9. Physical and chemical properties

<b>Boiling point</b>	: 4Hz 1% H2O/D2O	101.4°C (214.5°F)
	Sodium Acetate	101.42°C (214.6°F)
	1H S/N	60.9°C (141.6°F)
	ID 1	60.9°C (141.6°F)
	ID 2	189°C (372.2°F)
<b>Flash point</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Closed cup: 88°C (190.4°F)
<b>Evaporation rate</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Not available.
<b>Flammability (solid, gas)</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
<b>Lower and upper explosive (flammable) limits</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Lower: 3%
<b>Vapor pressure</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	0.061 kPa (0.46 mm Hg) [room temperature]
<b>Vapor density</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	1.04 [Air = 1]
<b>Relative density</b>	: 4Hz 1% H2O/D2O	1.107
	Sodium Acetate	1.1
	1H S/N	1.5
	ID 1	1500
	ID 2	1.18
<b>Solubility</b>	: 4Hz 1% H2O/D2O	Easily soluble in the following materials: cold water and hot water.
	Sodium Acetate	Easily soluble in the following materials: cold water and hot water.
	1H S/N	Very slightly soluble in the following materials: cold water and hot water.
	ID 1	Very slightly soluble in the following materials: cold water and hot water.
	ID 2	Soluble in the following materials: cold water and hot water.
<b>Solubility in water</b>	: Not available.	

## Section 9. Physical and chemical properties

<b>Partition coefficient: n-octanol/water</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Not available.
<b>Auto-ignition temperature</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	215°C (419°F)
<b>Decomposition temperature</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Not available.
<b>Viscosity</b>	: 4Hz 1% H2O/D2O	Not available.
	Sodium Acetate	Not available.
	1H S/N	Not available.
	ID 1	Not available.
	ID 2	Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: 4Hz 1% H2O/D2O	No specific test data related to reactivity available for this product or its ingredients.
	Sodium Acetate	No specific test data related to reactivity available for this product or its ingredients.
	1H S/N	No specific test data related to reactivity available for this product or its ingredients.
	ID 1	No specific test data related to reactivity available for this product or its ingredients.
	ID 2	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: 4Hz 1% H2O/D2O	The product is stable.
	Sodium Acetate	The product is stable.
	1H S/N	The product is stable.
	ID 1	The product is stable.
	ID 2	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: 4Hz 1% H2O/D2O	Under normal conditions of storage and use, hazardous reactions will not occur.
	Sodium Acetate	Under normal conditions of storage and use, hazardous reactions will not occur.
	1H S/N	Under normal conditions of storage and use, hazardous reactions will not occur.
	ID 1	Under normal conditions of storage and use, hazardous reactions will not occur.
	ID 2	Under normal conditions of storage and use, hazardous reactions will not occur.

## Section 10. Stability and reactivity

<b>10.4 Conditions to avoid</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	No specific data. No specific data. No specific data. No specific data. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Sodium Acetate 1H S/N ID 1 ID 2	No specific data. No specific data. No specific data. No specific data. Reactive or incompatible with the following materials: oxidizing materials
<b>10.6 Hazardous decomposition products</b>	: 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O  Sodium Acetate  1H S/N  ID 1  ID 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	LC50 Inhalation Vapor	Rat	47702 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 mg/kg	-
Ethylbenzene	LC50 Inhalation Gas.	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	LC50 Inhalation Vapor	Rat	47702 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 mg/kg	-
Iodomethane ( <sup>13</sup> C)	LC50 Inhalation Vapor	Rat	1300 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	76 mg/kg	-
Trimethyl phosphite	LC50 Inhalation Vapor	Rat	182000 mg/m <sup>3</sup>	1 hours
	LD50 Dermal	Rabbit	933.8 mg/kg	-
	LD50 Oral	Rat	1350 mg/kg	-

**Section 11. Toxicological information**

<b>ID 2</b> di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Iodomethane ( <sup>13</sup> C)	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rat	-	30 minutes 1 Grams	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-
Trimethyl phosphite	Skin - Mild irritant	Human	-	10 minutes 1 Grams	-
	Eyes - Mild irritant Skin - Severe irritant	Rabbit Rabbit	- -	0.1 Milliliters 500 milligrams	- -
<b>ID 2</b> di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-

**Sensitization**

Not available.

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Classification**

## Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform Ethylbenzene	- -	2B 2B	Reasonably anticipated to be a human carcinogen. -
<b>ID 1</b> ( <sup>2</sup> H)Chloroform Iodomethane ( <sup>13</sup> C)	- -	2B 3	Reasonably anticipated to be a human carcinogen. -

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Iodomethane ( <sup>13</sup> C)	Category 3	Not applicable.	Respiratory tract irritation
Trimethyl phosphite	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	Category 2	Not determined	kidneys and liver
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	Category 2	Not determined	kidneys and liver
<b>ID 2</b> di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	Category 2	Oral	kidneys and liver

### Aspiration hazard

Name	Result
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform Ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	ASPIRATION HAZARD - Category 1

## Section 11. Toxicological information

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

<b>Eye contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Causes serious eye irritation. Causes serious eye irritation. Causes eye irritation.
<b>Inhalation</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
<b>Skin contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Causes skin irritation. Causes skin irritation. No known significant effects or critical hazards.
<b>Ingestion</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Harmful if swallowed. Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. Harmful if swallowed. Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. May be irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No specific data. No specific data. Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: irritation watering redness
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## Section 11. Toxicological information

<b>Inhalation</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	No specific data. No specific data. Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	ID 1	Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
<b>Skin contact</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	No specific data. No specific data. Adverse symptoms may include the following: irritation redness
	ID 1	Adverse symptoms may include the following: irritation redness
<b>Ingestion</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	No specific data. No specific data. No specific data.
	ID 1 ID 2	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.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

<b>General</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N	No known significant effects or critical hazards. No known significant effects or critical hazards. May cause damage to organs through prolonged or repeated exposure.
	ID 1	May cause damage to organs through prolonged or repeated exposure.
	ID 2	May cause damage to organs through prolonged or repeated exposure.

## Section 11. Toxicological information

<b>Carcinogenicity</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N  ID 1  ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
<b>1H S/N</b> Oral	500.5 mg/kg
<b>ID 1</b> Oral Dermal Inhalation (vapors)	477.3 mg/kg 50505.5 mg/kg 300 mg/l
<b>ID 2</b> Oral	25000 mg/kg

<b>Other information</b>	: 4Hz 1% H2O/D2O Sodium Acetate 1H S/N ID 1 ID 2	Not available. Not available. Not available. Not available. Not available.
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## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	Acute EC50 13.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 81.5 mg/l Marine water	Crustaceans - Penaeus duorarum	48 hours
	Acute LC50 29000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 13300 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic EC10 3.61 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
Ethylbenzene	Chronic NOEC 6300 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 2970 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 5200 µg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	Acute EC50 13.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 81.5 mg/l Marine water	Crustaceans - Penaeus duorarum	48 hours
	Acute LC50 29000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 13300 µg/l 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
<b>ID 2</b> di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Benzamide ( <sup>15</sup> N)	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 661000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

### 12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>1H S/N</b> Ethylbenzene	-	-	Readily

### 12.3 Bioaccumulative potential

## Section 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>1H S/N</b>			
( <sup>2</sup> H)Chloroform	1.97	690	high
Ethylbenzene	3.6	-	low
<b>ID 1</b>			
( <sup>2</sup> H)Chloroform	1.97	690	high
Iodomethane ( <sup>13</sup> C)	1.57	-	low
Trimethyl phosphite	-0.73	-	low
<b>ID 2</b>			
di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	-1.35	3.16	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**12.5 Other adverse effects** : 4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O No known significant effects or critical hazards.  
 Sodium Acetate No known significant effects or critical hazards.  
 1H S/N No known significant effects or critical hazards.  
 ID 1 No known significant effects or critical hazards.  
 ID 2 No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

**Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.**

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

This Material 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.

### Regulatory information

**Additional information** : **Remarks**  
De minimis quantities

**DOT / IMDG / IATA** : Not regulated.

## Section 15. Regulatory information

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

**U.S. Federal regulations** : **Commerce control list precursor:** Trimethyl phosphite  
**United States inventory (TSCA 8b):** Not determined.  
**Clean Water Act (CWA) 307:** Chromium(III) 4-oxopent-2-ene-2-olate; (<sup>2</sup>H)Chloroform; Ethylbenzene  
**Clean Water Act (CWA) 311:** (<sup>2</sup>H)Chloroform; Ethylbenzene

**Clean Air Act (CAA) 112 regulated toxic substances:** (<sup>2</sup>H)Chloroform

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	60 - 100	Yes.	-	-	-	-
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	60 - 100	Yes.	-	-	-	-

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Immediate (acute) health hazard  
Delayed (chronic) health hazard

#### Composition/information on ingredients

## Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform Ethylbenzene	60 - 100 < 0.1	No. Yes.	No. No.	No. No.	Yes. Yes.	Yes. Yes.
<b>ID 1</b> ( <sup>2</sup> H)Chloroform Iodomethane ( <sup>13</sup> C) Trimethyl phosphite	60 - 100 0.1 - 1 0.1 - 1	No. No. Yes.	No. No. No.	No. No. No.	Yes. Yes. Yes.	Yes. Yes. No.
<b>ID 2</b> di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide Benzamide ( <sup>15</sup> N)	60 - 100 1 - 5	Yes. No.	No. No.	No. No.	Yes. Yes.	Yes. No.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	<b>1H S/N</b> ( <sup>2</sup> H)Chloroform Ethylbenzene	865-49-6 100-41-4	60 - 100 0.1 - 1
	<b>ID 1</b> ( <sup>2</sup> H)Chloroform Iodomethane ( <sup>13</sup> C)	865-49-6 4227-95-6	60 - 100 0.1 - 1
	<b>ID 2</b> Benzamide ( <sup>15</sup> N)	31656-62-9	1 - 5
<b>Supplier notification</b>	<b>1H S/N</b> ( <sup>2</sup> H)Chloroform Ethylbenzene	865-49-6 100-41-4	60 - 100 <0.1
	<b>ID 1</b> ( <sup>2</sup> H)Chloroform Iodomethane ( <sup>13</sup> C)	865-49-6 4227-95-6	60 - 100 0.1 - 1
	<b>ID 2</b> Benzamide ( <sup>15</sup> N)	31656-62-9	1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

- Massachusetts** : The following components are listed: CHLOROFORM
- New York** : The following components are listed: Chloroform; Methane, trichloro-
- New Jersey** : The following components are listed: DIMETHYL SULFOXIDE; METHANE, SULFINYLBI-; CHLOROFORM; METHANE, TRICHLORO-
- Pennsylvania** : The following components are listed: di[(<sup>2</sup>H<sub>3</sub>)Methyl] sulphoxide; METHANE, TRICHLORO-

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

## Section 15. Regulatory information

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
<b>1H S/N</b> ( <sup>2</sup> H)Chloroform	Yes.	Yes.	20 µg/day (ingestion) 40 µg/day (inhalation)	No.
Ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	Yes.	Yes.	20 µg/day (ingestion) 40 µg/day (inhalation)	No.
Iodomethane ( <sup>13</sup> C)	Yes.	No.	No.	No.

**Canada inventory** : Not determined.

### International regulations

**International lists** :

- Australia inventory (AICS)**: Not determined.
- China inventory (IECSC)**: Not determined.
- Japan inventory**: Not determined.
- Korea inventory**: Not determined.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: Not determined.
- Philippines inventory (PICCS)**: Not determined.
- Taiwan inventory (CSNN)**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## Section 16. Other information

### History

**Date of issue** : 12/30/2013.  
**Date of previous issue** : No previous validation.  
**Version** : 1

☑ Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.