

# SAFETY DATA SHEET



Sample Kit for Indirect Detection, Part Number 94906536

## 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.

**Product name** : Sample Kit for Indirect Detection, Part Number 94906536

**Part No. (Chemical Kit)** : 94906536

<b>Part No.</b>	:	1H S/N	96812070
		1H Lineshape	96812089
		ID 1	96812096
		4Hz 1% H2O/D2O	190185501
		Autotest, no salt	190185506
		ID 2	96812097

**Validation date** : 12/06/2013.

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

<b>Material uses</b>	:	Analytical chemistry.
		1H S/N 860 µl
		1H Lineshape 860 µl
		ID 1 860 µl
		4Hz 1% H2O/D2O 860 µl
		Autotest, no salt 860 µl
		ID 2 860 µl

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

**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.

<b>OSHA/HCS status</b>	:	1H S/N	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
		1H Lineshape	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).
		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.

## Section 2. Hazards identification

	Autotest, no salt	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).
<b>Classification of the substance or mixture</b>	: 1H S/N	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
	1H Lineshape	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
	ID 1	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
	4Hz 1% H2O/D2O Autotest, no salt	Not classified. TOXIC TO REPRODUCTION (Fertility) - Category 1B TOXIC TO REPRODUCTION (Unborn child) - Category 1B
	ID 2	FLAMMABLE LIQUIDS - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

**GHS label elements**

**Hazard pictograms**



## Section 2. Hazards identification

<b>Signal word</b>	: 1H S/N 1H Lineshape ID 1 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	Danger Danger Danger No signal word. Danger Warning
<b>Hazard statements</b>	: 1H S/N  1H Lineshape  ID 1  4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. Suspected of causing cancer. May be fatal if swallowed and enters airways. May cause respiratory irritation. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure. Highly flammable liquid and vapor. Causes serious eye irritation. Suspected of causing cancer. May be fatal if swallowed and enters airways. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. Suspected of causing cancer. May be fatal if swallowed and enters airways. May cause respiratory irritation. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure. No known significant effects or critical hazards. May damage fertility or the unborn child. Combustible liquid. Causes eye irritation. May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

#### **Prevention**

- : 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.
- P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
- P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P233 - Keep container tightly closed.
- 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.

## Section 2. Hazards identification

<b>Response</b>	<ul style="list-style-type: none"> <li>: P314 - Get medical attention if you feel unwell.</li> <li>P308 + P313 - IF exposed or concerned: Get medical attention.</li> <li>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.</li> <li>P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth.</li> <li>P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</li> <li>P302 + P352 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.</li> <li>P332 + P313 - If skin irritation occurs: Get medical attention.</li> <li>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337 + P313 - If eye irritation persists: Get medical attention.</li> </ul>		
<b>Storage</b>	<ul style="list-style-type: none"> <li>: P405 - Store locked up.</li> <li>P403 - Store in a well-ventilated place.</li> <li>P235 - Keep cool.</li> </ul>		
<b>Disposal</b>	<ul style="list-style-type: none"> <li>: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</li> </ul>		
<b>Supplemental label elements</b>	<table border="0"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>: 1H S/N</li> <li>1H Lineshape</li> <li>ID 1</li> <li>4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O</li> <li>Autotest, no salt</li> <li>ID 2</li> </ul> </td> <td style="vertical-align: top; padding-left: 20px;"> <ul style="list-style-type: none"> <li>None known.</li> <li>Avoid contact with skin and clothing. Wash thoroughly after handling.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>: 1H S/N</li> <li>1H Lineshape</li> <li>ID 1</li> <li>4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O</li> <li>Autotest, no salt</li> <li>ID 2</li> </ul>	<ul style="list-style-type: none"> <li>None known.</li> <li>Avoid contact with skin and clothing. Wash thoroughly after handling.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> </ul>
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<b>Hazards not otherwise classified</b>	<table border="0"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>: 1H S/N</li> <li>1H Lineshape</li> <li>ID 1</li> <li>4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O</li> <li>Autotest, no salt</li> <li>ID 2</li> </ul> </td> <td style="vertical-align: top; padding-left: 20px;"> <ul style="list-style-type: none"> <li>None known.</li> <li>Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>: 1H S/N</li> <li>1H Lineshape</li> <li>ID 1</li> <li>4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O</li> <li>Autotest, no salt</li> <li>ID 2</li> </ul>	<ul style="list-style-type: none"> <li>None known.</li> <li>Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> <li>None known.</li> </ul>
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## 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>	<ul style="list-style-type: none"> <li>: 1H S/N</li> <li>1H Lineshape</li> <li>ID 1</li> <li>4Hz 1% H<sub>2</sub>O/D<sub>2</sub>O</li> <li>Autotest, no salt</li> <li>ID 2</li> </ul>	<ul style="list-style-type: none"> <li>Mixture</li> <li>Mixture</li> <li>Mixture</li> <li>Mixture</li> <li>Mixture</li> <li>Mixture</li> </ul>
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Ingredient name	%	CAS number
<b>1H S/N</b>		
( <sup>2</sup> H)Chloroform	60 - 100	865-49-6
Ethylbenzene	< 0.1	100-41-4
<b>1H Lineshape</b>		
( <sup>2</sup> H <sub>6</sub> )Acetone	60 - 100	666-52-4
Trichloromethane	0.1 - 1	67-66-3

## Section 3. Composition/information on ingredients

<b>ID 1</b>		
( <sup>2</sup> H)Chloroform	60 - 100	865-49-6
Iodomethane ( <sup>13</sup> C)	0.1 - 1	4227-95-6
Trimethyl phosphite	0.1 - 1	121-45-9
<b>Autotest, no salt</b>		
Methanol ( <sup>13</sup> C)	< 0.1	14742-26-8
<b>ID 2</b>		
di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	60 - 100	2206-27-1
Benzamide ( <sup>15</sup> N)	1 - 5	31656-62-9

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

**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

### Description of necessary first aid measures

<b>Eye contact</b>	: 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.
	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.
	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.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	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.
	Autotest, no salt	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 if irritation occurs.
	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>	: 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

## Section 4. First aid measures

1H Lineshape	<p>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 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.</p>
ID 1	<p>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.</p>
4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
Autotest, no salt	<p>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. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing</p>

## Section 4. First aid measures

	ID 2	such as a collar, tie, belt or waistband. 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.
<b>Skin contact</b>	: 1H S/N	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.
	1H Lineshape	Wash skin thoroughly with soap and water or use recognized 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.
	ID 1	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.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Autotest, no salt	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	ID 2	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.
<b>Ingestion</b>	: 1H S/N	Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen

## Section 4. First aid measures

1H Lineshape	<p>tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen</p>
ID 1	<p>tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen</p>
4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	<p>tight clothing such as a collar, tie, belt or waistband. 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.</p>
Autotest, no salt	<p>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. 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.</p>
ID 2	<p>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</p>



## Section 4. First aid measures

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.

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

#### Potential acute health effects

<b>Eye contact</b>	: 1H S/N 1H Lineshape ID 1 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	Causes serious eye irritation. Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes eye irritation.
<b>Inhalation</b>	: 1H S/N  1H Lineshape  ID 1  4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	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. 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. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: 1H S/N 1H Lineshape  ID 1 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	Causes skin irritation. Defatting to the skin. May cause skin dryness and irritation. Causes skin irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: 1H S/N  1H Lineshape  ID 1	Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

## Section 4. First aid measures

4Hz 1% H2O/D2O Autotest, no salt ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. May be irritating to mouth, throat and stomach.
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### Over-exposure signs/symptoms

<b>Eye contact</b>	: 1H S/N	Adverse symptoms may include the following: pain or irritation watering redness
	1H Lineshape	Adverse symptoms may include the following: pain or irritation watering redness
	ID 1	Adverse symptoms may include the following: pain or irritation watering redness
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness

<b>Inhalation</b>	: 1H S/N	Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	1H Lineshape	Adverse symptoms may include the following: 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
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations No specific data.

<b>Skin contact</b>	: 1H S/N	Adverse symptoms may include the following: irritation redness
	1H Lineshape	Adverse symptoms may include the following: irritation dryness cracking
	ID 1	Adverse symptoms may include the following:

## Section 4. First aid measures

		irritation redness No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	4Hz 1% H2O/D2O Autotest, no salt	No specific data.
<b>Ingestion</b>	ID 2	No specific data.
	: 1H S/N	Adverse symptoms may include the following: nausea or vomiting
	1H Lineshape	Adverse symptoms may include the following: nausea or vomiting
	ID 1	Adverse symptoms may include the following: nausea or vomiting
	4Hz 1% H2O/D2O Autotest, no salt	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	ID 2	No specific data.

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

<b>Notes to physician</b>	: 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.
	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.
	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.
	4Hz 1% H2O/D2O	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Autotest, no salt	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	ID 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: 1H S/N	No specific treatment.
	1H Lineshape	No specific treatment.
	ID 1	No specific treatment.
	4Hz 1% H2O/D2O	No specific treatment.
	Autotest, no salt	No specific treatment.
	ID 2	No specific treatment.
<b>Protection of first-aiders</b>	: 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.
	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

## Section 4. First aid measures

ID 1	appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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.
4Hz 1% H2O/D2O	No action shall be taken involving any personal risk or without suitable training.
Autotest, no salt	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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
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

### Extinguishing media

<b>Suitable extinguishing media</b>	: 1H S/N	Use an extinguishing agent suitable for the surrounding fire.
	1H Lineshape ID 1	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
	4Hz 1% H2O/D2O	Use an extinguishing agent suitable for the surrounding fire.
	Autotest, no salt	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>	: 1H S/N	None known.
	1H Lineshape	Do not use water jet.
	ID 1	None known.
	4Hz 1% H2O/D2O	None known.
	Autotest, no salt	None known.
	ID 2	Do not use water jet.

### Specific hazards arising from the chemical

: 1H S/N	In a fire or if heated, a pressure increase will occur and the container may burst.
1H Lineshape	Highly flammable liquid and vapor. 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.
ID 1	In a fire or if heated, a pressure increase will occur and the container may burst.
4Hz 1% H2O/D2O	In a fire or if heated, a pressure increase will occur and the container may burst.
Autotest, no salt	In a fire or if heated, a pressure increase will occur

## Section 5. Fire-fighting measures

	ID 2	and the container may burst. 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	
<b>Special protective actions for fire-fighters</b>	: 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.
	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.
	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.
	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.
	Autotest, no salt	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>	: 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.
	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.
	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.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus

## Section 5. Fire-fighting measures

Autotest, no salt	(SCBA) with a full face-piece operated in positive pressure mode. 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

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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".

<b>Environmental precautions</b> : 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).
1H Lineshape	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).
4Hz 1% H2O/D2O	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).
Autotest, no salt	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).

### Methods and materials for containment and cleaning up

## Section 6. Accidental release measures

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.
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.
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.
4Hz 1% H2O/D2O	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.
Autotest, no salt	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

### Precautions for safe handling

**Protective measures** : 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 swallow. 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.

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 breathe vapor or mist. Do not swallow. 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)

## Section 7. Handling and storage

ID 1

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.

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 swallow. 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.

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

Put on appropriate personal protective equipment (see Section 8).

Autotest, no salt

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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 vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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. 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.

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.

### Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.



## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : 1H S/N

1H Lineshape

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 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

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. 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.

Autotest, no salt

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.

ID 2

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.

Store in accordance with local regulations. Store in a segregated and approved area. Store in

## Section 7. Handling and storage

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.

## 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.

### [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>1H Lineshape</b> <sup>(2</sup> H <sub>6</sub> )Acetone	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 500 ppm 8 hours. TWA: 1188 mg/m <sup>3</sup> 8 hours. STEL: 750 ppm 15 minutes. STEL: 1782 mg/m <sup>3</sup> 15 minutes. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 750 ppm 8 hours. TWA: 1800 mg/m <sup>3</sup> 8 hours.

## Section 8. Exposure controls/personal protection

Trichloromethane

**ID 1**  
(<sup>2</sup>H)Chloroform

Iodomethane (<sup>13</sup> C)

Trimethyl phosphite

STEL: 1000 ppm 15 minutes.  
 STEL: 2400 mg/m<sup>3</sup> 15 minutes.  
**NIOSH REL (United States, 6/2009).**  
 TWA: 250 ppm 10 hours.  
 TWA: 590 mg/m<sup>3</sup> 10 hours.  
**OSHA PEL (United States, 6/2010).**  
 TWA: 1000 ppm 8 hours.  
 TWA: 2400 mg/m<sup>3</sup> 8 hours.  
**ACGIH TLV (United States, 3/2012).**  
 TWA: 49 mg/m<sup>3</sup> 8 hours.  
 TWA: 10 ppm 8 hours.  
**NIOSH REL (United States, 1/2013).**  
 STEL: 9.78 mg/m<sup>3</sup> 60 minutes.  
 STEL: 2 ppm 60 minutes.  
**OSHA PEL (United States, 6/2010).**  
 CEIL: 240 mg/m<sup>3</sup>  
 CEIL: 50 ppm  
**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 9.78 mg/m<sup>3</sup> 8 hours.  
 TWA: 2 ppm 8 hours.

**ACGIH TLV (United States, 3/2012).**  
 TWA: 10 ppm 8 hours.  
 TWA: 49 mg/m<sup>3</sup> 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 2 ppm 8 hours.  
 TWA: 9.78 mg/m<sup>3</sup> 8 hours.  
**NIOSH REL (United States, 6/2009).**  
 STEL: 2 ppm 60 minutes.  
 STEL: 9.78 mg/m<sup>3</sup> 60 minutes.  
**OSHA PEL (United States, 6/2010).**  
 CEIL: 50 ppm  
 CEIL: 240 mg/m<sup>3</sup>

**ACGIH TLV (United States, 3/2012).**  
**Absorbed through skin.**  
 TWA: 2 ppm 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
**Absorbed through skin.**  
 TWA: 2 ppm 8 hours.  
 TWA: 10 mg/m<sup>3</sup> 8 hours.  
**NIOSH REL (United States, 6/2009).**  
**Absorbed through skin.**  
 TWA: 2 ppm 10 hours.  
 TWA: 10 mg/m<sup>3</sup> 10 hours.  
**OSHA PEL (United States, 6/2010).**  
**Absorbed through skin.**  
 TWA: 5 ppm 8 hours.  
 TWA: 28 mg/m<sup>3</sup> 8 hours.

**ACGIH TLV (United States, 3/2012).**  
 TWA: 2 ppm 8 hours.  
 TWA: 10 mg/m<sup>3</sup> 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 2 ppm 8 hours.  
 TWA: 10 mg/m<sup>3</sup> 8 hours.  
**NIOSH REL (United States, 1/2013).**  
 TWA: 2 ppm 10 hours.

## Section 8. Exposure controls/personal protection

**Autotest, no salt**  
Methanol (<sup>13</sup>C)

**ID 2**  
di[(<sup>2</sup>H<sub>3</sub>)Methyl] sulphoxide

TWA: 10 mg/m<sup>3</sup> 10 hours.

**ACGIH TLV (United States, 3/2012).**

**Absorbed through skin.**

TWA: 200 ppm 8 hours.

TWA: 262 mg/m<sup>3</sup> 8 hours.

STEL: 250 ppm 15 minutes.

STEL: 328 mg/m<sup>3</sup> 15 minutes.

**OSHA PEL 1989 (United States, 3/1989).**

**Absorbed through skin.**

TWA: 200 ppm 8 hours.

TWA: 260 mg/m<sup>3</sup> 8 hours.

STEL: 250 ppm 15 minutes.

STEL: 325 mg/m<sup>3</sup> 15 minutes.

**NIOSH REL (United States, 6/2009).**

**Absorbed through skin.**

TWA: 200 ppm 10 hours.

TWA: 260 mg/m<sup>3</sup> 10 hours.

STEL: 250 ppm 15 minutes.

STEL: 325 mg/m<sup>3</sup> 15 minutes.

**OSHA PEL (United States, 6/2010).**

TWA: 200 ppm 8 hours.

TWA: 260 mg/m<sup>3</sup> 8 hours.

**AIHA WEEL (United States, 10/2011).**

TWA: 250 ppm 8 hours.

**Appropriate engineering controls**

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

**Environmental exposure controls**

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

**Individual protection measures**

**Hygiene measures**

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

**Eye/face protection**

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- 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

### Appearance

<b>Physical state</b>	: 1H S/N	Liquid.
	1H Lineshape	Liquid.
	ID 1	Liquid.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Liquid.
	Autotest, no salt	Liquid.
<b>Color</b>	ID 2	Liquid. [Clear.]
	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
<b>Odor</b>	Autotest, no salt	Not available.
	ID 2	Colorless.
	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
<b>Odor threshold</b>	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
	Autotest, no salt	Not available.
	ID 2	Ripe olive.
	: 1H S/N	Not available.
	1H Lineshape	Not available.
<b>pH</b>	ID 1	Not available.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
	Autotest, no salt	Not available.
	ID 2	Not available.
	: 1H S/N	Not available.
1H Lineshape	Not available.	
ID 1	Not available.	
4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.	
Autotest, no salt	Not available.	
ID 2	Not available.	

## Section 9. Physical and chemical properties

<b>Melting point</b>	: 1H S/N	-64°C (-83.2°F)
	1H Lineshape	-95°C (-139°F)
	ID 1	-64°C (-83.2°F)
	4Hz 1% H2O/D2O	Not available.
	Autotest, no salt	3.81°C (38.9°F)
<b>Boiling point</b>	ID 2	18 to 18.54°C (64.4 to 65.4°F)
	: 1H S/N	60.9°C (141.6°F)
	1H Lineshape	55.5°C (131.9°F)
	ID 1	60.9°C (141.6°F)
	4Hz 1% H2O/D2O	101.4°C (214.5°F)
<b>Flash point</b>	Autotest, no salt	101.1°C (214°F)
	ID 2	189°C (372.2°F)
	: 1H S/N	Not available.
	1H Lineshape	Closed cup: -17°C (1.4°F)
	ID 1	Not available.
<b>Evaporation rate</b>	4Hz 1% H2O/D2O	Not available.
	Autotest, no salt	Not available.
	ID 2	Closed cup: 88°C (190.4°F)
	: 1H S/N	Not available.
	1H Lineshape	Not available.
<b>Flammability (solid, gas)</b>	ID 1	Not available.
	4Hz 1% H2O/D2O	Not available.
	Autotest, no salt	Not available.
	ID 2	Not available.
	: 1H S/N	Not available.
<b>Lower and upper explosive (flammable) limits</b>	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H2O/D2O	Not available.
	Autotest, no salt	Not available.
	ID 2	Lower: 3%
<b>Vapor pressure</b>	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H2O/D2O	Not available.
	Autotest, no salt	Not available.
<b>Vapor density</b>	ID 2	0.061 kPa (0.46 mm Hg) [room temperature]
	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H2O/D2O	Not available.
<b>Relative density</b>	Autotest, no salt	Not available.
	ID 2	1.04 [Air = 1]
	: 1H S/N	1.5
	1H Lineshape	0.872
	ID 1	1500
	4Hz 1% H2O/D2O	1.107
	Autotest, no salt	1.1 [(D2O)]
	ID 2	1.18

## Section 9. Physical and chemical properties

<b>Solubility</b>	: 1H S/N	Very slightly soluble in the following materials: cold water and hot water.
	1H Lineshape	Easily soluble in the following materials: cold water, hot water and acetone.
	ID 1	Very slightly soluble in the following materials: cold water and hot water.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Easily soluble in the following materials: cold water and hot water.
	Autotest, no salt	Easily 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.	
<b>Partition coefficient: n-octanol/water</b>	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
	Autotest, no salt	Not available.
	ID 2	Not available.
<b>Auto-ignition temperature</b>	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
	Autotest, no salt	Not available.
	ID 2	215°C (419°F)
<b>Decomposition temperature</b>	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
	Autotest, no salt	Not available.
	ID 2	Not available.
<b>Viscosity</b>	: 1H S/N	Not available.
	1H Lineshape	Not available.
	ID 1	Not available.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
	Autotest, no salt	Not available.
	ID 2	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: 1H S/N	No specific test data related to reactivity available for this product or its ingredients.
	1H Lineshape	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.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No specific test data related to reactivity available for this product or its ingredients.
	Autotest, no salt	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.

## Section 10. Stability and reactivity

<b>Chemical stability</b>	: 1H S/N 1H Lineshape ID 1 4Hz 1% H2O/D2O Autotest, no salt ID 2	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
<b>Possibility of hazardous reactions</b>	: 1H S/N  1H Lineshape  ID 1  4Hz 1% H2O/D2O  Autotest, no salt  ID 2	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 1H S/N 1H Lineshape   ID 1 4Hz 1% H2O/D2O Autotest, no salt ID 2	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. 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>Incompatible materials</b>	: 1H S/N 1H Lineshape   ID 1 4Hz 1% H2O/D2O Autotest, no salt ID 2	No specific data. Reactive or incompatible with the following materials: oxidizing materials No specific data. No specific data. No specific data. Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: 1H S/N   1H Lineshape   ID 1   4Hz 1% H2O/D2O	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 10. Stability and reactivity**

Autotest, no salt

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

ID 2

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

**Section 11. Toxicological information****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>1H Lineshape</b> ( <sup>2</sup> H <sub>6</sub> )Acetone	LD50 Oral	Rat	5800 mg/kg	-
Trichloromethane	LC50 Inhalation Vapor	Rat	47702 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 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	-
<b>Autotest, no salt</b> Methanol ( <sup>13</sup> C)	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
<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>1H Lineshape</b>					

## Section 11. Toxicological information

<sup>(2)H<sub>6</sub></sup> Acetone	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	-
Trichloromethane	Skin - Mild irritant	Rabbit	-	395 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>ID 1</b> <sup>(2)H</sup> 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	-
	Skin - Mild irritant	Human	-	10 minutes 1 Grams	-
Trimethyl phosphite	Eyes - Mild irritant	Rabbit	-	0.1 Milliliters	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-
<b>Autotest, no salt</b> Methanol ( <sup>13</sup> C)	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
<b>ID 2</b> di[( <sup>2)H<sub>3</sub>)Methyl] sulphoxide</sup>	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>1H Lineshape</b> Trichloromethane	-	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>1H Lineshape</b> ( <sup>2</sup> H <sub>6</sub> )Acetone Trichloromethane	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects 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
<b>Autotest, no salt</b> Methanol ( <sup>13</sup> C)	Category 1 Category 3	Not determined Not applicable.	central nervous system (CNS) Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

## Section 11. Toxicological information

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>1H Lineshape</b> Trichloromethane	Category 2	Not determined	heart, 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

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

### Potential acute health effects

<b>Eye contact</b>	: 1H S/N 1H Lineshape ID 1 4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	Causes serious eye irritation. Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes eye irritation.
<b>Inhalation</b>	: 1H S/N  1H Lineshape  ID 1  4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt ID 2	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. 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. No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Skin contact</b>	: 1H S/N	Causes skin irritation.
	1H Lineshape	Defatting to the skin. May cause skin dryness and irritation.
	ID 1	Causes skin irritation.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No known significant effects or critical hazards.
	Autotest, no salt	No known significant effects or critical hazards.
	ID 2	No known significant effects or critical hazards.
<b>Ingestion</b>	: 1H S/N	Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.
	1H Lineshape	Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.
	ID 1	Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No known significant effects or critical hazards.
	Autotest, no salt	No known significant effects or critical hazards.
	ID 2	May be irritating to mouth, throat and stomach.

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

<b>Eye contact</b>	: 1H S/N	Adverse symptoms may include the following: pain or irritation watering redness
	1H Lineshape	Adverse symptoms may include the following: pain or irritation watering redness
	ID 1	Adverse symptoms may include the following: pain or irritation watering redness
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No specific data.
	Autotest, no salt	No specific data.
	ID 2	Adverse symptoms may include the following: irritation watering redness
<b>Inhalation</b>	: 1H S/N	Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	1H Lineshape	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	ID 1	Adverse symptoms may include the following: respiratory tract irritation coughing

## Section 11. Toxicological information

	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt	nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Skin contact</b>	ID 2 : 1H S/N	No specific data. Adverse symptoms may include the following: irritation redness
	1H Lineshape	Adverse symptoms may include the following: irritation dryness cracking
	ID 1	Adverse symptoms may include the following: irritation redness
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	ID 2 : 1H S/N	No specific data. Adverse symptoms may include the following: nausea or vomiting
	1H Lineshape	Adverse symptoms may include the following: nausea or vomiting
	ID 1	Adverse symptoms may include the following: nausea or vomiting
	4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O Autotest, no salt	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	ID 2	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.

## Section 11. Toxicological information

<b>General</b>	<b>:</b> 1H S/N	May cause damage to organs through prolonged or repeated exposure.
	1H Lineshape	May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
	ID 1	May cause damage to organs through prolonged or repeated exposure.
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. May cause damage to organs through prolonged or repeated exposure.
<b>Carcinogenicity</b>	<b>:</b> 1H S/N	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	1H Lineshape	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	ID 1	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	<b>:</b> 1H S/N	No known significant effects or critical hazards.
	1H Lineshape	No known significant effects or critical hazards.
	ID 1	No known significant effects or critical hazards.
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	<b>:</b> 1H S/N	No known significant effects or critical hazards.
	1H Lineshape	No known significant effects or critical hazards.
	ID 1	No known significant effects or critical hazards.
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. May damage the unborn child. No known significant effects or critical hazards.
<b>Developmental effects</b>	<b>:</b> 1H S/N	No known significant effects or critical hazards.
	1H Lineshape	No known significant effects or critical hazards.
	ID 1	No known significant effects or critical hazards.
	4Hz 1% H2O/D2O Autotest, no salt ID 2	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>	<b>:</b> 1H S/N	No known significant effects or critical hazards.
	1H Lineshape	No known significant effects or critical hazards.
	ID 1	No known significant effects or critical hazards.
	4Hz 1% H2O/D2O Autotest, no salt ID 2	No known significant effects or critical hazards. No known significant effects or critical hazards. May damage fertility. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Route	ATE value
<b>1H S/N</b> Oral	500.5 mg/kg
<b>1H Lineshape</b> Oral	30000 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>	:	1H S/N	Not available.
		1H Lineshape	Not available.
		ID 1	Not available.
		4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	Not available.
		Autotest, no salt	Not available.
		ID 2	Not available.

## Section 12. Ecological information

### 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 Chronic NOEC 1000 µg/l Fresh water		Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata	96 hours 96 hours	
<b>1H Lineshape</b> ( <sup>2</sup> H <sub>6</sub> )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,	96 hours	



## Section 12. Ecological information

Trichloromethane	Chronic NOEC 4.95 mg/l Marine water Chronic NOEC 0.1 ml/L Fresh water	Weanling) Algae - Ulva pertusa Daphnia - Daphnia magna - Neonate	96 hours 21 days
	Acute EC50 13.3 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute EC50 2.803 mg/l Fresh water Acute LC50 63800 µg/l Fresh water	Crustaceans - Cypris subglobosa Daphnia - Daphnia magna - Neonate	48 hours 48 hours
	Acute LC50 13.3 ppm Fresh water Chronic EC10 3.61 mg/l Fresh water	Fish - Lepomis macrochirus Algae - Chlamydomonas reinhardtii - Exponential growth phase	96 hours 72 hours
	Chronic NOEC 6300 µg/l Fresh water	Daphnia - Daphnia magna	21 days
<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
<b>Autotest, no salt</b> Methanol ( <sup>13</sup> C)	Acute LC50 81.5 mg/l Marine water Acute LC50 29000 µg/l Fresh water Acute LC50 13300 µg/l Fresh water Chronic EC10 3.61 mg/l Fresh water	Crustaceans - Penaeus duorarum Daphnia - Daphnia magna Fish - Lepomis macrochirus Algae - Chlamydomonas reinhardtii - Exponential growth phase	48 hours 48 hours 96 hours 72 hours
	Chronic NOEC 6300 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 16.912 mg/l Marine water Acute LC50 2500000 µg/l Marine water	Algae - Ulva pertusa Crustaceans - Crangon crangon - Adult	96 hours 48 hours
	Acute LC50 3289 mg/l Fresh water Acute LC50 100000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours
<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 Acute LC50 661000 µg/l Fresh water	Fish - Pimephales promelas Fish - Pimephales promelas	96 hours 96 hours

### Persistence and degradability

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

### 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>1H Lineshape</b>			
( <sup>2</sup> H <sub>6</sub> )Acetone	-0.23	-	low
Trichloromethane	1.97	690	high
<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>Autotest, no salt</b>			
Methanol ( <sup>13</sup> C)	-0.77	<10	low
<b>ID 2</b>			
di[( <sup>2</sup> H <sub>3</sub> )Methyl] sulphoxide	-1.35	3.16	low

### Mobility in soil

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

**Other adverse effects** :

1H S/N	No known significant effects or critical hazards.
1H Lineshape	No known significant effects or critical hazards.
ID 1	No known significant effects or critical hazards.
4Hz 1% H <sub>2</sub> O/D <sub>2</sub> O	No known significant effects or critical hazards.
Autotest, no salt	No known significant effects or critical hazards.
ID 2	No known significant effects or critical hazards.

## Section 13. Disposal considerations

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

## Section 13. Disposal considerations

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

**U.S. Federal regulations** : **TSCA 8(a) PAIR:** Acetonitrile (<sup>15</sup>N)  
**Commerce control list precursor:** Trimethyl phosphite  
**United States inventory (TSCA 8b):** Not determined.  
**Clean Water Act (CWA) 307:** (<sup>2</sup>H)Chloroform; Ethylbenzene; Chromium(III) 4-oxopent-2-ene-2-olate; Acetonitrile (<sup>15</sup>N); Trichloromethane  
**Clean Water Act (CWA) 311:** (<sup>2</sup>H)Chloroform; Ethylbenzene; Trichloromethane

**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)** : 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>1H Lineshape</b> Trichloromethane	0.1 - 1	Yes.	-	-	-	-
<b>ID 1</b> ( <sup>2</sup> H)Chloroform	60 - 100	Yes.	-	-	-	-

**SARA 304 RQ** : Not applicable.

### SARA 311/312

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

## Section 15. Regulatory information

### Composition/information on ingredients

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>1H Lineshape</b> ( <sup>2</sup> H <sub>6</sub> )Acetone Trichloromethane	60 - 100 0.1 - 1	Yes. No.	No. No.	No. No.	Yes. Yes.	No. 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>Autotest, no salt</b> Methanol ( <sup>13</sup> C)	< 0.1	Yes.	No.	No.	Yes.	Yes.
<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>1H Lineshape</b> Trichloromethane	67-66-3	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>1H Lineshape</b> Trichloromethane	67-66-3	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

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.

## Section 15. Regulatory information

### State regulations

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

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>1H Lineshape</b> Trichloromethane	Yes.	Yes.	20 µg/day (ingestion) 40 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.
<b>Autotest, no salt</b> Methanol ( <sup>13</sup> C)	No.	Yes.	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

## Section 15. Regulatory information

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

## Section 16. Other information

### History

**Date of issue** : 12/06/2013.  
**Date of previous issue** : 11/15/2011.  
**Version** : 2

Indicates information that has changed from previously issued version.

### Notice to reader

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