

# SAFETY DATA SHEET

## InfinityLab LC Installation Standard Kit

### Section 1. Identification

**Product identifier** : InfinityLab LC Installation Standard Kit  
**Part no. (chemical kit)** : 5191-4548  
**Part no.** : LCMS Grade Formic Acid 5191-4549-1  
 InfinityLab LC Performance Checkout Std 5191-4547-1

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

**Identified uses** : Reagents and Standards for Analytical Chemistry Laboratory Use  
 LCMS Grade Formic Acid 2 x 1 ml  
 InfinityLab LC Performance Checkout Std 2 x 0.5 ml

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

**Emergency telephone number (with hours of operation)** : CHEMTREC®: 1-800-424-9300

### Section 2. Hazard identification

#### Classification of the substance or mixture

##### LCMS Grade Formic Acid

H226 FLAMMABLE LIQUIDS - Category 3  
 H302 ACUTE TOXICITY (oral) - Category 4  
 H331 ACUTE TOXICITY (inhalation) - Category 3  
 H314 SKIN CORROSION - Category 1A  
 H318 SERIOUS EYE DAMAGE - Category 1  
 Health Hazards Not Otherwise Classified - Category 1

##### InfinityLab LC Performance Checkout Std

H225 FLAMMABLE LIQUIDS - Category 2  
 H301 ACUTE TOXICITY (oral) - Category 3  
 H311 ACUTE TOXICITY (dermal) - Category 3  
 H331 ACUTE TOXICITY (inhalation) - Category 3  
 H351 CARCINOGENICITY - Category 2  
 H360 TOXIC TO REPRODUCTION - Category 1  
 H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1  
 H410 AQUATIC HAZARD (LONG-TERM) - Category 1

#### GHS label elements

**Hazard pictograms** : LCMS Grade Formic Acid




InfinityLab LC Performance Checkout Std



## Section 2. Hazard identification


<b>Signal word</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Danger Danger
<b>Hazard statements</b>	: <input checked="" type="checkbox"/> LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	H226 - Flammable liquid and vapor. H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H331 - Toxic if inhaled. Causes respiratory tract burns. H225 - Highly flammable liquid and vapor.  H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled. H351 - Suspected of causing cancer. H360 - May damage fertility or the unborn child. H370 - Causes damage to organs. H410 - Very toxic to aquatic life with long lasting effects.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash thoroughly after handling. P201 - Obtain special instructions before use.  P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment. P260 - Do not breathe vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash thoroughly after handling.
<b>Response</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P363 - Wash contaminated clothing before reuse. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. P391 - Collect spillage.  P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor. P304 + P340, P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call

## Section 2. Hazard identification

		a POISON CENTER or doctor. P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse. P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.
<b>Storage</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Not applicable. Not applicable.
<b>Disposal</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	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>	:  LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Keep container tightly closed. Do not breathe vapor or spray. Use only with adequate ventilation. None known.
<b>Other hazards which do not result in classification</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	None known. None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Substance Mixture
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Ingredient name	Synonyms	% (w/w)	CAS number
 <b>LCMS Grade Formic Acid</b>  Formic acid	Formic acid	100	64-18-6
<b>InfinityLab LC Performance Checkout Std</b>  Methanol	Methanol	≥60 - ≤80	67-56-1
bis(2-Ethylhexyl) phthalate	di-sec-octyl phthalate	≥0.1 - ≤1	117-81-7

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

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

## Section 4. First-aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	: LCMS Grade Formic Acid	Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
	InfinityLab LC Performance Checkout Std	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 necessary, call a poison center or physician.
<b>Inhalation</b>	: LCMS Grade Formic Acid	Get medical attention immediately. Call a poison center or physician. 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. 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.
	InfinityLab LC Performance Checkout Std	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.
<b>Skin contact</b>	: LCMS Grade Formic Acid	Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	InfinityLab LC Performance Checkout Std	Wash with plenty of soap and 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. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## Section 4. First-aid measures

<b>Ingestion</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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. Chemical burns must be treated promptly by a 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.  Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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. 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.
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### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Causes serious eye damage. No known significant effects or critical hazards.
<b>Inhalation</b>	: <input checked="" type="checkbox"/> LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Toxic if inhaled. Corrosive to the respiratory system. Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.
<b>Skin contact</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Causes severe burns. Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.
<b>Ingestion</b>	: <input checked="" type="checkbox"/> LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	May cause burns to mouth, throat and stomach. Harmful if swallowed. Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Adverse symptoms may include the following: pain watering redness No specific data.
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## Section 4. First-aid measures

<b>Inhalation</b>	: LCMS Grade Formic Acid	Adverse symptoms may include the following: respiratory tract irritation coughing
	InfinityLab LC Performance Checkout Std	Adverse symptoms may include the following:  reduced fetal weight increase in fetal deaths skeletal malformations
<b>Skin contact</b>	: LCMS Grade Formic Acid	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	InfinityLab LC Performance Checkout Std	Adverse symptoms may include the following:  reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	: LCMS Grade Formic Acid	Adverse symptoms may include the following: stomach pains
	InfinityLab LC Performance Checkout Std	Adverse symptoms may include the following:  reduced fetal weight increase in fetal deaths skeletal malformations

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

<b>Notes to physician</b>	: LCMS Grade Formic Acid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	InfinityLab LC Performance Checkout Std	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: LCMS Grade Formic Acid	No specific treatment.
	InfinityLab LC Performance Checkout Std	No specific treatment.
<b>Protection of first-aiders</b>	: LCMS Grade Formic Acid	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.
	InfinityLab LC Performance Checkout Std	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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam. Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Unsuitable extinguishing media</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Do not use water jet. Do not use water jet.
<b>Specific hazards arising from the chemical</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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.  Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
<b>Hazardous thermal decomposition products</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide Formaldehyde.
<b>Special protective actions for fire-fighters</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	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.  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>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (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.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: LCMS Grade Formic Acid	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.
	InfinityLab LC Performance Checkout Std	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.
<b>For emergency responders</b>	: LCMS Grade Formic Acid	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	InfinityLab LC Performance Checkout Std	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	: LCMS Grade Formic Acid	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).
	InfinityLab LC Performance Checkout Std	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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

<b>Methods for cleaning up</b>	: LCMS Grade Formic Acid	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.
	InfinityLab LC Performance Checkout Std	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

<b>Protective measures</b>	: LCMS Grade Formic Acid	Put on appropriate personal protective equipment (see Section 8). 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. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
	InfinityLab LC Performance Checkout Std	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 breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	: LCMS Grade Formic Acid	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.
	InfinityLab LC Performance Checkout Std	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** : LCMS Grade Formic Acid

InfinityLab LC Performance Checkout Std

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. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
<p><input checked="" type="checkbox"/> <b>LCMS Grade Formic Acid</b> Formic acid</p> <p>InfinityLab LC Performance Checkout Std Methanol</p>	<p><b>CA Alberta Provincial (Canada, 3/2023).</b> OEL: 9.4 mg/m<sup>3</sup> 8 hours. OEL: 10 ppm 15 minutes. OEL: 5 ppm 8 hours. OEL: 19 mg/m<sup>3</sup> 15 minutes.</p> <p><b>CA British Columbia Provincial (Canada, 8/2023).</b> TWA: 5 ppm 8 hours. STEL: 10 ppm 15 minutes.</p> <p><b>CA Ontario Provincial (Canada, 6/2019).</b> TWA: 5 ppm 8 hours. STEL: 10 ppm 15 minutes.</p> <p><b>CA Quebec Provincial (Canada, 9/2023).</b> TWAEV: 5 ppm 8 hours. TWAEV: 9.4 mg/m<sup>3</sup> 8 hours. STEV: 10 ppm 15 minutes. STEV: 19 mg/m<sup>3</sup> 15 minutes.</p> <p><b>CA Saskatchewan Provincial (Canada, 4/2021).</b> STEL: 10 ppm 15 minutes. TWA: 5 ppm 8 hours.</p> <p><b>CA Alberta Provincial (Canada, 3/2023).</b></p>

## Section 8. Exposure controls/personal protection

<p>bis(2-Ethylhexyl) phthalate</p>	<p><b>Absorbed through skin.</b>                      OEL: 262 mg/m<sup>3</sup> 8 hours.                      OEL: 200 ppm 8 hours.                      OEL: 250 ppm 15 minutes.                      OEL: 328 mg/m<sup>3</sup> 15 minutes.  <b>CA British Columbia Provincial (Canada, 8/2023). Absorbed through skin.</b>                      TWA: 200 ppm 8 hours.                      STEL: 250 ppm 15 minutes.  <b>CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.</b>                      TWA: 200 ppm 8 hours.                      STEL: 250 ppm 15 minutes.  <b>CA Quebec Provincial (Canada, 9/2023). Absorbed through skin.</b>                      TWAEV: 200 ppm 8 hours.                      TWAEV: 262 mg/m<sup>3</sup> 8 hours.                      STEV: 250 ppm 15 minutes.                      STEV: 328 mg/m<sup>3</sup> 15 minutes.  <b>CA Saskatchewan Provincial (Canada, 4/2021). Absorbed through skin.</b>                      STEL: 250 ppm 15 minutes.                      TWA: 200 ppm 8 hours.  <b>CA Alberta Provincial (Canada, 3/2023).</b>                      OEL: 5 mg/m<sup>3</sup> 8 hours.  <b>CA British Columbia Provincial (Canada, 8/2023). Absorbed through skin.</b>                      TWA: 5 mg/m<sup>3</sup> 8 hours.  <b>CA Ontario Provincial (Canada, 6/2019).</b>                      TWA: 3 mg/m<sup>3</sup> 8 hours.                      STEL: 5 mg/m<sup>3</sup> 15 minutes.  <b>CA Quebec Provincial (Canada, 9/2023).</b>                      TWAEV: 5 mg/m<sup>3</sup> 8 hours.                      STEV: 10 mg/m<sup>3</sup> 15 minutes.  <b>CA Saskatchewan Provincial (Canada, 4/2021).</b>                      STEL: 10 mg/m<sup>3</sup> 15 minutes.                      TWA: 5 mg/m<sup>3</sup> 8 hours.</p>
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### Biological exposure indices

No exposure indices known.

### 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.

## Section 8. Exposure controls/personal protection

- 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

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

### Appearance

- Physical state** : LCMS Grade Formic Acid      Liquid.  
InfinityLab LC Performance      Liquid.  
Checkout Std
- Color** : LCMS Grade Formic Acid      Colorless.  
InfinityLab LC Performance      Not available.  
Checkout Std
- Odor** : LCMS Grade Formic Acid      Pungent.  
InfinityLab LC Performance      Not available.  
Checkout Std
- Odor threshold** : LCMS Grade Formic Acid      Not available.  
InfinityLab LC Performance      Not available.  
Checkout Std
- pH** : LCMS Grade Formic Acid      Not available.  
InfinityLab LC Performance      Not available.  
Checkout Std
- Melting point/freezing point** : LCMS Grade Formic Acid      4°C (39.2°F) [OECD 102]  
InfinityLab LC Performance      Not available.  
Checkout Std
- Boiling point, initial boiling point, and boiling range** : LCMS Grade Formic Acid      100.23°C (212.4°F) [OECD 103]  
InfinityLab LC Performance      Not available.  
Checkout Std
- Flash point** : LCMS Grade Formic Acid      Closed cup: 49.5°C (121.1°F) [DIN EN ISO 13736]  
InfinityLab LC Performance      Closed cup: -18 to 23°C (-0.4 to 73.4°F)  
Checkout Std

## Section 9. Physical and chemical properties and safety characteristics

<b>Evaporation rate</b>	: LCMS Grade Formic Acid	1.14 (butyl acetate = 1)
	InfinityLab LC Performance	Not available.
	Checkout Std	
<b>Flammability</b>	: LCMS Grade Formic Acid	Not applicable.
	InfinityLab LC Performance	Not applicable.
	Checkout Std	
<b>Lower and upper explosion limit/flammability limit</b>	: LCMS Grade Formic Acid	Lower: 18%
		Upper: 51%
	InfinityLab LC Performance	Not available.
	Checkout Std	
<b>Vapor pressure</b>	: LCMS Grade Formic Acid	4.3 kPa (32.03522 mm Hg) [room temperature] [EU A.4]
		17.4 kPa (130.51 mm Hg) [50°C (122°F)]

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>InfinityLab LC Performance Checkout Std</b>						
Methanol	126.96329	16.9	-	-	-	-
water	17.5	2.3	-	92.258	12.3	-

<b>Relative vapor density</b>	: LCMS Grade Formic Acid	1.6 [Air = 1]
	InfinityLab LC Performance	Not available.
	Checkout Std	
<b>Relative density</b>	: LCMS Grade Formic Acid	1.2
	InfinityLab LC Performance	Not available.
	Checkout Std	

<b>Media</b>	<b>Result</b>
<b>LCMS Grade Formic Acid</b>	
methanol	Soluble
diethyl ether	Soluble
acetone	Soluble
water	Soluble
<b>InfinityLab LC Performance Checkout Std</b>	
water	Soluble

<b>Partition coefficient: n-octanol/water</b>	: LCMS Grade Formic Acid	-2.3 [OECD 107]
	InfinityLab LC Performance	Not applicable.
	Checkout Std	

<b>Auto-ignition temperature</b>	: LCMS Grade Formic Acid	434°C (813.2°F)
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Ingredient name	°C	°F	Method
<b>InfinityLab LC Performance Checkout Std</b>			
Methanol	455	851	DIN 51794

<b>Decomposition temperature</b>	: LCMS Grade Formic Acid	150 to 300°C (302 to 572°F)
	InfinityLab LC Performance	Not available.
	Checkout Std	

## Section 9. Physical and chemical properties and safety characteristics

<b>Viscosity</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Dynamic (room temperature): 1.22 mPa·s (1.22 cP) [OECD 114] Kinematic (room temperature): 1.47 mm <sup>2</sup> /s (1.47 cSt) [OECD 114] Kinematic (40°C (104°F)): 1.02 mm <sup>2</sup> /s (1.02 cSt) [OECD 114] Not available.
<b>Particle characteristics</b>		
<b>Median particle size</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	Not applicable. Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	The product is stable. The product is stable.
<b>Possibility of hazardous reactions</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	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>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	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. 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.
<b>Incompatible materials</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: LCMS Grade Formic Acid  InfinityLab LC Performance Checkout Std	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

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>LCMS Grade Formic Acid</b> Formic acid	LC50 Inhalation Vapor LD50 Oral	Rat Rat	7400 mg/m <sup>3</sup> 730 mg/kg	4 hours -
<b>InfinityLab LC Performance Checkout Std</b> Methanol	LC50 Inhalation Vapor LC50 Inhalation Vapor LC50 Inhalation Vapor LC50 Inhalation Vapor	Rat Rat Rat Rat	189.95 mg/l 145000 ppm 83.84 mg/l 64000 ppm	1 hours 1 hours 4 hours 4 hours
bis(2-Ethylhexyl) phthalate	LD50 Dermal LD50 Oral LD50 Dermal LD50 Oral	Rabbit Rat Rabbit Rat	15800 mg/kg 5600 mg/kg 25 g/kg 30 g/kg	- - - -

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>LCMS Grade Formic Acid</b> Formic acid	Eyes - Severe irritant	Rabbit	-	122 mg	-
<b>InfinityLab LC Performance Checkout Std</b> Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	40 mg	-
	Eyes - Severe irritant	Rabbit	-	0.1 MI	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
bis(2-Ethylhexyl) phthalate	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Mild irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

#### Sensitization

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Classification

Product/ingredient name	IARC	NTP	ACGIH
<b>InfinityLab LC Performance Checkout Std</b> bis(2-Ethylhexyl) phthalate	2B	Reasonably anticipated to be a human carcinogen.	A3

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

**Conclusion/Summary** : Not available.

## Section 11. Toxicological information

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
InfinityLab LC Performance Checkout Std Methanol	Category 1	-	central nervous system (CNS), optic nerve

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : LCMS Grade Formic Acid Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.  
InfinityLab LC Performance Checkout Std Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : LCMS Grade Formic Acid Causes serious eye damage.  
InfinityLab LC Performance Checkout Std No known significant effects or critical hazards.

**Inhalation** : LCMS Grade Formic Acid Toxic if inhaled. Corrosive to the respiratory system.  
InfinityLab LC Performance Checkout Std Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.

**Skin contact** : LCMS Grade Formic Acid Causes severe burns.  
InfinityLab LC Performance Checkout Std Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.

**Ingestion** : LCMS Grade Formic Acid May cause burns to mouth, throat and stomach.  
InfinityLab LC Performance Checkout Std Harmful if swallowed.  
Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

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

**Eye contact** : LCMS Grade Formic Acid Adverse symptoms may include the following:  
pain  
watering  
redness  
InfinityLab LC Performance Checkout Std No specific data.

**Inhalation** : LCMS Grade Formic Acid Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
InfinityLab LC Performance Checkout Std Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Skin contact** : LCMS Grade Formic Acid Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
InfinityLab LC Performance Checkout Std Adverse symptoms may include the following:  
reduced fetal weight



## Section 11. Toxicological information

<b>Ingestion</b>	: LCMS Grade Formic Acid InfinityLab LC Performance Checkout Std	increase in fetal deaths skeletal malformations Adverse symptoms may include the following: stomach pains Adverse symptoms may include the following:  reduced fetal weight increase in fetal deaths skeletal malformations
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### 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

- General** : LCMS Grade Formic Acid  
InfinityLab LC Performance Checkout Std  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.
- Carcinogenicity** : LCMS Grade Formic Acid  
InfinityLab LC Performance Checkout Std  
No known significant effects or critical hazards.  
Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : LCMS Grade Formic Acid  
InfinityLab LC Performance Checkout Std  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.
- Reproductive toxicity** : LCMS Grade Formic Acid  
InfinityLab LC Performance Checkout Std  
No known significant effects or critical hazards.  
May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>LCMS Grade Formic Acid</b> Formic acid	730	N/A	N/A	7.4	N/A
<b>InfinityLab LC Performance Checkout Std</b> InfinityLab LC Performance Checkout Std	131.9	395.8	N/A	4.0	N/A
Methanol	100	300	N/A	3	N/A
bis(2-Ethylhexyl) phthalate	30000	25000	N/A	N/A	N/A

## Section 11. Toxicological information

<b>Other information</b>	: InfinityLab LC Performance Checkout Std	Adverse symptoms may include the following: blurred or double vision, Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage. Narcotic effect. May cause nervous system disturbances.
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## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
CMS Grade Formic Acid Formic acid	Acute EC50 151200 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Larvae	48 hours
	Acute LC50 80000 to 90000 µg/l Marine water	Crustaceans - <i>Carcinus maenas</i> - Adult	48 hours
	Acute NOEC ≥100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
InfinityLab LC Performance Checkout Std Methanol  bis(2-Ethylhexyl) phthalate	Acute EC50 2736 mg/l Marine water	Algae - <i>Ulva pertusa</i>	96 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - <i>Crangon crangon</i> - Adult	48 hours
	Acute LC50 3289 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 290 mg/l Fresh water	Fish - <i>Danio rerio</i> - Egg	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - <i>Ulva pertusa</i>	96 hours
	Acute EC50 6.02 mg/l	Algae - <i>Chlorella vulgaris</i> - Exponential growth phase	96 hours
	Acute EC50 133 µg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Neonate	48 hours
	Acute LC50 37.95 mg/l Fresh water	Fish - <i>Cyprinus carpio</i>	96 hours
	Chronic NOEC 76 µg/l Marine water	Algae - <i>Hormosira banksii</i> - Gamete	72 hours
	Chronic NOEC 109 µg/l Marine water	Crustaceans - <i>Eurytemora affinis</i> - Nauplii	21 days
Chronic NOEC 0.077 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days	
Chronic NOEC 0.1 µg/l Fresh water	Fish - <i>Poecilia reticulata</i> - Larvae	28 days	

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
InfinityLab LC Performance Checkout Std bis(2-Ethylhexyl) phthalate	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	82 % - Readily - 29 days	-	20.3 mg/l Activated sludge
	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	82 % - Readily - 29 days	20.3 mg/l	Activated sludge

## Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>LCMS Grade Formic Acid</b> Formic acid	-	-	Readily
<b>InfinityLab LC Performance Checkout Std</b> Methanol	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>LCMS Grade Formic Acid</b> Formic acid	-2.3	-	Low
<b>InfinityLab LC Performance Checkout Std</b> Methanol bis(2-Ethylhexyl) phthalate	-0.77 7.6	<10 1380	Low High

### Mobility in soil

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

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

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

## Section 14. Transport information

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

### Additional information

**Remarks** : De minimis quantities

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

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

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : The following components are listed: formic acid; methanol

**CEPA Toxic substances** : None of the components are listed.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Canada** : Not determined.

**United States** : All components are active or exempted.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 08/23/2024

**Date of previous issue** : 12/21/2023

**Version** : 3

### Key to abbreviations

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

### Procedure used to derive the classification

Classification	Justification
<b>LCMS Grade Formic Acid</b> FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION - Category 1A SERIOUS EYE DAMAGE - Category 1 Health Hazards Not Otherwise Classified - Category 1	Expert judgment Expert judgment On basis of test data Expert judgment Expert judgment On basis of test data
<b>InfinityLab LC Performance Checkout Std</b> FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3	Expert judgment Calculation method

## Section 16. Other information

ACUTE TOXICITY (dermal) - Category 3	Calculation method
ACUTE TOXICITY (inhalation) - Category 3	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

 Indicates information that has changed from previously issued version.

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