

Material Safety Data Sheet



Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

2D-LC Easy Starter Kit, Part Number G4236-68000

1 . Identification of the material and supplier

Names

Product name : 2D-LC Easy Starter Kit, Part Number G4236-68000
Part No. (Chemical Kit) : G4236-68000
Part No. : 2D-LC Solution, Part Number 5190-6895 5190-6895
Formic Acid, Part Number G2453-85060 G2453-85060
ADG : CHEMICAL KIT

Supplier

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number : CHEMTREC®: +(61)-290372994

Uses

Area of application : 2D-LC Solution, Part Number 5190-6895 Industrial applications, Professional applications.
Formic Acid, Part Number G2453-85060 Industrial applications, Professional applications.
Material uses : Analytical reagent.
2D-LC Solution, Part Number 1 x 2 ml
5190-6895
Formic Acid, Part Number 5 ml
G2453-85060

2 . Hazards identification

Classification : 2D-LC Solution, Part Number 5190-6895 F; R11
Xn; R20/21/22
Xi; R36
R66
N; R50/53
Formic Acid, Part Number G2453-85060 C; R35

Risk phrases : 2D-LC Solution, Part Number 5190-6895 R11- Highly flammable.
R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R36- Irritating to eyes.
R66- Repeated exposure may cause skin dryness or cracking.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Formic Acid, Part Number G2453-85060 R35- Causes severe burns.

Safety phrases : 2D-LC Solution, Part Number 5190-6895 S36/37- Wear suitable protective clothing and gloves.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.
Formic Acid, Part Number G2453-85060 S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2 . Hazards identification

<p>Statement of hazardous/dangerous nature</p>	<p>: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060</p>	<p>S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). HAZARDOUS SUBSTANCE. DANGEROUS GOODS. HAZARDOUS SUBSTANCE. DANGEROUS GOODS.</p>
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3 . Composition/information on ingredients

<p>Mixture</p>	<p>: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060</p>	<p>Yes. Yes.</p>
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Ingredient name	CAS number	%
2D-LC Solution, Part Number 5190-6895		
Acetonitrile	75-05-8	>60
Acetone	67-64-1	10 - <30
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-	6190-65-4	<10
Diuron (ISO)	330-54-1	<10
3-Cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione	51235-04-2	<10
Linuron (ISO)	330-55-2	<10
prometryn	7287-19-6	<10
Terbutylazine	5915-41-3	<10
Formic Acid, Part Number G2453-85060		
Formic acid	64-18-6	>60

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

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.

4 . First-aid measures

<p>Inhalation</p>	<p>: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060</p>	<p>Get medical attention immediately. 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. 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. Get medical attention immediately. 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</p>
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4 . First-aid measures

		<p>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.</p>
<p>Ingestion</p>	<p>: 2D-LC Solution, Part Number 5190-6895</p>	<p>Get medical attention immediately. 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. 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>
	<p>Formic Acid, Part Number G2453-85060</p>	<p>Get medical attention immediately. 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. 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.</p>
<p>Skin contact</p>	<p>: 2D-LC Solution, Part Number 5190-6895</p> <p>Formic Acid, Part Number G2453-85060</p>	<p>Wash skin thoroughly with soap and water or use recognised skin cleanser. 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.</p> <p>Get medical attention immediately. 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.</p>

4 . First-aid measures

Eye contact	: 2D-LC Solution, Part Number 5190-6895	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.
	Formic Acid, Part Number G2453-85060	Get medical attention immediately. 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.
Protection of first-aiders	: 2D-LC Solution, Part Number 5190-6895	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.
	Formic Acid, Part Number G2453-85060	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.
Advice to doctor	: 2D-LC Solution, Part Number 5190-6895	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.
	Formic Acid, Part Number G2453-85060	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Extinguishing media

Suitable	: 2D-LC Solution, Part Number 5190-6895	Use dry chemical, CO ₂ , water spray (fog) or foam.
	Formic Acid, Part Number G2453-85060	Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	: 2D-LC Solution, Part Number 5190-6895	Do not use water jet.
	Formic Acid, Part Number G2453-85060	Do not use water jet.
Special exposure hazards	: 2D-LC Solution, Part Number 5190-6895	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. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	Formic Acid, Part Number G2453-85060	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

5 . Fire-fighting measures

	2D-LC Solution, Part Number 5190-6895	containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	Formic Acid, Part Number G2453-85060	Highly flammable liquid. 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.
Hazardous thermal decomposition products	: 2D-LC Solution, Part Number 5190-6895	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.
	Formic Acid, Part Number G2453-85060	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides/cyanides
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Hazchem code	: 2Z	

6 . Accidental release measures

Personal precautions	: 2D-LC Solution, Part Number 5190-6895	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
	Formic Acid, Part Number G2453-85060	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
Environmental precautions	: 2D-LC Solution, Part Number 5190-6895	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
	Formic Acid, Part Number G2453-85060	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6 . Accidental release measures

Methods for cleaning up : 2D-LC Solution, Part Number 5190-6895

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.

Formic Acid, Part Number G2453-85060

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.

7 . Handling and storage

Handling : 2D-LC Solution, Part Number 5190-6895

Put on appropriate personal protective equipment (see Section 8). 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. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Refer to special instructions/safety data sheet. 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 non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Formic Acid, Part Number G2453-85060

Put on appropriate personal protective equipment (see Section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapour 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,

7 . Handling and storage

Storage

: 2D-LC Solution, Part Number
5190-6895

Formic Acid, Part Number
G2453-85060

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 non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

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

8 . Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
<p>2D-LC Solution, Part Number 5190-6895 Acetonitrile</p> <p>Acetone</p> <p>Diuron (ISO)</p> <p>Formic Acid, Part Number G2453-85060 Formic acid</p>	<p>Safe Work Australia (Australia, 4/2013). Absorbed through skin. STEL: 101 mg/m³ 15 minutes. STEL: 60 ppm 15 minutes. TWA: 67 mg/m³ 8 hours. TWA: 40 ppm 8 hours.</p> <p>Safe Work Australia (Australia, 4/2013). STEL: 2375 mg/m³ 15 minutes. STEL: 1000 ppm 15 minutes. TWA: 1185 mg/m³ 8 hours. TWA: 500 ppm 8 hours.</p> <p>Safe Work Australia (Australia, 4/2013). TWA: 10 mg/m³ 8 hours.</p> <p>Safe Work Australia (Australia, 4/2013). STEL: 19 mg/m³ 15 minutes.</p>

8 . Exposure controls/personal protection

STEL: 10 ppm 15 minutes.
TWA: 9.4 mg/m³ 8 hours.
TWA: 5 ppm 8 hours.

No additional exposure standard allocated for other ingredients/components covered by the MSDS other than those listed in the table above.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Exposure controls

- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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.
- Eyes** : 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 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.
- Hands** : 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.
- Respiratory** : 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.
- Skin** : 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.
- 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.

9 . Physical and chemical properties

Physical state	: 2D-LC Solution, Part Number 5190-6895	Liquid.
	Formic Acid, Part Number G2453-85060	Liquid.
Colour	: 2D-LC Solution, Part Number 5190-6895	Not available.
	Formic Acid, Part Number G2453-85060	Clear. Colourless.
Odour	: 2D-LC Solution, Part Number 5190-6895	Not available.
	Formic Acid, Part Number G2453-85060	Pungent.

9 . Physical and chemical properties

Odour threshold	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Not available.
Boiling point	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. 101°C (213.8°F)
Melting point	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. 8°C (46.4°F)
Vapour pressure	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. 5.3 kPa (40 mm Hg) [room temperature]
Relative density	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Not available.
Flash point	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Closed cup: -18 to 23°C (-0.4 to 73.4°F) Closed cup: 59°C (138.2°F)
Flammable limits	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Lower: 18% Upper: 57%
Vapour density	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. 1.6 [Air = 1]
pH	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Not available.
Viscosity	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Not available.
Auto-ignition temperature	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. 601°C (1113.8°F)
Evaporation rate	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Not available.
Solubility	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Easily soluble in the following materials: cold water and hot water.

10 . Stability and reactivity

Chemical stability	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	The product is stable. The product is stable.
Possibility of hazardous reactions	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	oxidizing materials Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	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.

11 . Toxicological information

Potential acute health effects

Inhalation	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Harmful by inhalation. Can cause central nervous system (CNS) depression. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Ingestion	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Harmful if swallowed. Can cause central nervous system (CNS) depression. May cause burns to mouth, throat and stomach.
Skin contact	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Harmful in contact with skin. Defatting to the skin. May cause skin dryness and irritation. Severely corrosive to the skin. Causes severe burns.
Eye contact	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Irritating to eyes. Severely corrosive to the eyes. Causes severe burns.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2D-LC Solution, Part Number 5190-6895 Acetonitrile	LC50 Inhalation Vapour	Rat	17100 ppm	4 hours
	LD50 Dermal	Rabbit	980 mg/kg	-
	LD50 Oral	Rat	2460 mg/kg	-
Acetone	LD50 Oral	Rat	5800 mg/kg	-
	LD50 Dermal	Rat	>5 g/kg	-
Diuron (ISO)	LD50 Oral	Rat	1 g/kg	-
	LD50 Dermal	Rabbit	>5278 mg/kg	-

11 . Toxicological information

6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione	LD50 Dermal	Rat	5278 mg/kg	-
Linuron (ISO)	LD50 Oral	Rat	1690 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	48 mg/m ³	4 hours
prometryn	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1146 mg/kg	-
Terbuthylazine	LD50 Oral	Rat	1802 mg/kg	-
	LD50 Oral	Rat	1845 mg/kg	-
Formic Acid, Part Number G2453-85060				
Formic acid	LC50 Inhalation Dusts and mists	Rat	7400 mg/m ³	4 hours
	LD50 Oral	Rat	730 mg/kg	-

Conclusion/Summary : Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2D-LC Solution, Part Number 5190-6895					
Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Acetone	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
3-Cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione	Eyes - Moderate irritant	Rabbit	-	48 milligrams	-
prometryn	Eyes - Mild irritant	Rabbit	-	80 milligrams	-
Formic Acid, Part Number G2453-85060					
Formic acid	Eyes - Severe irritant	Rabbit	-	122 milligrams	-

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

11 . Toxicological information

Product name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
2D-LC Solution, Part Number 5190-6895 Diuron (ISO) Linuron (ISO)	Carc. Cat. 3; R40 Carc. Cat. 3; R40	- -	- Repr. Cat. 2; R61	- Repr. Cat. 3; R62

Chronic effects	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. No known significant effects or critical hazards.
Carcinogenicity	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	No known significant effects or critical hazards. No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>		
Inhalation	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness No specific data.
Ingestion	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	No specific data. Adverse symptoms may include the following: stomach pains
Skin	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Adverse symptoms may include the following: irritation dryness cracking Adverse symptoms may include the following: pain or irritation redness blistering may occur
Eyes	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Adverse symptoms may include the following: irritation watering redness Adverse symptoms may include the following: pain watering redness

11 . Toxicological information

Other adverse symptoms	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Not available. Not available.
Target organs	: 2D-LC Solution, Part Number 5190-6895 Formic Acid, Part Number G2453-85060	Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea. Contains material which may cause damage to the following organs: blood, kidneys, upper respiratory tract, skin, eye, lens or cornea.

12 . Ecological information

Ecotoxicity : This material is very toxic to aquatic life with long lasting effects.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2D-LC Solution, Part Number 5190-6895	Acetonitrile	Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 100 mg/l Fresh water	Aquatic plants - Lemna minor 96 hours Daphnia - Daphnia magna 48 hours Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) 96 hours
	Acetone	Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water Acute EC50 20.565 mg/l Marine water Acute LC50 6000000 µg/l Fresh water Acute LC50 10000 µg/l Fresh water Acute LC50 100 mg/l Fresh water	Aquatic plants - Lemna minor 96 hours Daphnia - Daphnia magna 21 days Algae - Ulva pertusa 96 hours Crustaceans - Gammarus pulex 48 hours Daphnia - Daphnia magna 48 hours Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) 96 hours
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)- Diuron (ISO)		Chronic NOEC 4.95 mg/l Marine water Chronic NOEC 0.016 ml/L Fresh water Chronic NOEC 0.1 ml/L Fresh water	Algae - Ulva pertusa 96 hours Crustaceans - Daphniidae 21 days Daphnia - Daphnia magna - Neonate 21 days
		Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae 42 days
3-Cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione		Acute LC50 2000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata 96 hours
		Acute EC50 2.26 µg/l Marine water Acute EC50 0.0007 mg/l Fresh water Acute EC50 0.005 mg/l Fresh water Acute EC50 8.4 ppm Fresh water Acute LC50 380 µg/l Fresh water	Algae - Coccolithus huxleyi - Exponential growth phase 72 hours Algae - Pseudokirchneriella subcapitata 96 hours Aquatic plants - Lemna sp. 96 hours Daphnia - Daphnia magna 48 hours Crustaceans - Gammarus lacustris 48 hours
	Acute LC50 500 µg/l Fresh water Chronic NOEC 0.54 µg/l Marine water	Fish - Morone saxatilis - Larvae 96 hours Algae - Coccolithus huxleyi - Exponential growth phase 72 hours	
	Chronic NOEC 26.4 ppb Acute EC50 56 µg/l Fresh water	Fish - Pimephales promelas 60 days Algae - Pseudokirchneriella subcapitata - Exponential growth phase 3 days	
	Acute EC50 24.5 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata 96 hours	
	Acute EC50 0.073 mg/l Fresh water Acute EC50 85 ppm Fresh water	Aquatic plants - Lemna sp. 96 hours Daphnia - Daphnia magna 48 hours	

12 . Ecological information

Linuron (ISO)	Acute LC50 94 ppm Marine water	Crustaceans - Decapoda - Embryo	48 hours
	Acute LC50 120 ppm Fresh water Chronic NOEC 0.1 mg/l Fresh water Chronic NOEC 20 ppm Marine water Chronic NOEC 85.5 µg/l Fresh water	Fish - Oreochromis niloticus Crustaceans - Copepoda Daphnia - Daphnia magna Fish - Salmo salar - Yolk-sac larvae	96 hours 21 days 21 days 396 days
prometryn	Acute EC50 6 µg/l Fresh water Acute EC50 0.12 ppm Fresh water Acute LC50 0.89 ppm Marine water Chronic EC10 1.2 µg/l Fresh water Chronic NOEC 4.3 to 5.1 µg/l Fresh water	Algae - Scenedesmus acutus Daphnia - Daphnia magna Fish - Cyprinodon variegatus Algae - Scenedesmus acutus Crustaceans - Crustacea	3 days 48 hours 96 hours 3 days 21 days
	Chronic NOEC 0.13 ppm Marine water Chronic NOEC 0.042 ppm Acute EC50 0.00165 mg/l Fresh water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Algae - Scenedesmus acutus var. acutus	21 days 80 days 96 hours
Terbuthylazine	Acute EC50 9700 µg/l Fresh water Acute LC50 2300 µg/l Fresh water Chronic NOEC 1 ppm Marine water Chronic NOEC 0.62 ppm Acute EC50 9 µg/l Fresh water	Daphnia - Daphnia magna Fish - Danio rerio - Larvae Daphnia - Daphnia magna Fish - Pimephales promelas Algae - Pseudokirchneriella subcapitata	48 hours 96 hours 21 days 32 days 72 hours
	Acute EC50 150 µg/l Fresh water Acute EC50 5000 µg/l Fresh water Acute LC50 1600 µg/l Fresh water Chronic NOEC 2 µg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Poecilia reticulata Algae - Pseudokirchneriella subcapitata	3 days 48 hours 96 hours 72 hours
Formic Acid, Part Number G2453-85060 Formic acid	Acute EC50 151200 to 165600 µg/l Fresh water Acute LC50 80000 to 90000 µg/l Marine water	Daphnia - Daphnia magna - Larvae Crustaceans - Carcinus maenas - Adult	48 hours 48 hours

Other ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2D-LC Solution, Part Number 5190-6895 Acetonitrile	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2D-LC Solution, Part Number 5190-6895 Acetonitrile	-0.34	-	low
Acetone	-0.23	-	low
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-	1.51	-	low
Diuron (ISO)	2.84	5.2	low
3-Cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione	1.85	-	low
Linuron (ISO)	3.2	17.78	low
prometryn	3.51	-	low
Terbuthylazine	3.21	-	low
Formic Acid, Part Number G2453-85060 Formic acid	-2.3	-	low

12 . Ecological information

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

13 . Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Additional information : Special provisions
251, 340

Regulation	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADG	UN3316	CHEMICAL KIT	9	II		<p>Hazchem code ZZ</p> <p>Special provisions 251, 340</p>
IMDG	UN3316	CHEMICAL KIT. Marine pollutant (Acetone)	9	II	 	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p>Emergency schedules (EmS) F-A, _S-P_</p> <p>Special provisions 251, 340</p>
IATA	UN3316	Chemical kit	9	II		<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p>Passenger and Cargo Aircraft Quantity limitation: 10 kg Packaging instructions: 960</p> <p>Cargo Aircraft Only Quantity limitation: 10 kg Packaging instructions: 960</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: 1 kg Packaging instructions: Y960</p> <p>Special provisions A44, A163</p>

14 . Transport information

PG* : Packing group

15 . Regulatory information

[Standard Uniform Schedule of Medicine and Poisons](#)

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[Control of Scheduled Carcinogenic Substances](#)

Ingredient name	Schedule
No listed substance	

Australia inventory (AICS) : At least one component is not listed.

16 . Other information

Remarks :
Date of issue : 26/08/2014
Date of previous issue : No previous validation.

✔ Indicates information that has changed from previously issued version.

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