

SAFETY DATA SHEET

7890GC SP1, Part Number 8500-8855

Section 1. Identification

Product identifier : 7890GC SP1, Part Number 8500-8855
Part no. : 8500-8855

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

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use
 1 x1 ml Amber. ampoule

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

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN CORROSION/IRRITATION - Category 2
 H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
 H341 GERM CELL MUTAGENICITY - Category 2
 H351 CARCINOGENICITY - Category 2
 H371 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 2
 H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%

Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%

Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3%

GHS label elements

Hazard pictograms



Signal word

: DANGER

Hazard statements

: H225 - Highly flammable liquid and vapour.
 H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H341 - Suspected of causing genetic defects.
 H351 - Suspected of causing cancer.
 H371 - May cause damage to organs.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazard(s) identification

- 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, hot surfaces, sparks, open flames and other ignition sources. 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.
 P273 - Avoid release to the environment.
 P260 - Do not breathe vapour.
 P270 - Do not eat, drink or smoke when using this product.
 P264 - Wash hands thoroughly after handling.
- Response** : P309 + P311 - IF exposed or if you feel unwell: Call a POISON CENTER or physician.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P302 + P352 + P362 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.
 P332 + P313 - If skin irritation occurs: Get medical attention.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 + P313 - If eye irritation persists: Get medical attention.
- Storage** : P405 - Store locked up.
 P403 - Store in a well-ventilated place.
 P235 - Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements**
- Additional warning phrases** : Not applicable.
- Other hazards which do not result in classification** : None known.

Section 3. Composition and ingredient information

Substance/mixture : Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> tert-Butyl methyl ether	≥75 - ≤90	1634-04-4
2-Ethoxy-2-methylpropane	≤2.8	637-92-3
2-Methylbut-2-ene	<2.5	513-35-9
2-methoxy-2-methylbutane	≤2.8	994-05-8
pentane	≤2.8	109-66-0
2-Methylpropan-2-ol	<1.5	75-65-0
Isopentane	≤2.8	78-78-4
Methanol	≤3	67-56-1
2,2,4,6,6-pentamethylhept-3-ene	<1.5	123-48-8

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

- Eye contact** : 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.
- Inhalation** : 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 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.
- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : 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. Firefighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

Specific hazards arising from the chemical : Highly flammable liquid and vapour. 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 vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Formaldehyde.

Special protective actions for fire-fighters : 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.

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.

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 spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : 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".

Environmental precautions : Avoid dispersal of spill 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.

Methods and material for containment and cleaning up

Methods for cleaning up : 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 : 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 vapour 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.

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.

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

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
tert-Butyl methyl ether	Safe Work Australia (Australia, 1/2014). TWA: 25 ppm 8 hours. TWA: 92 mg/m ³ 8 hours. STEL: 75 ppm 15 minutes. STEL: 275 mg/m ³ 15 minutes.
2-Ethoxy-2-methylpropane	ACGIH TLV (United States, 3/2017). TWA: 25 ppm 8 hours.
2-methoxy-2-methylbutane	ACGIH TLV (United States, 3/2017). TWA: 20 ppm 8 hours.
pentane	Safe Work Australia (Australia, 1/2014). STEL: 2210 mg/m ³ 15 minutes. STEL: 750 ppm 15 minutes. TWA: 1770 mg/m ³ 8 hours. TWA: 600 ppm 8 hours.
2-Methylpropan-2-ol	Safe Work Australia (Australia, 1/2014). STEL: 455 mg/m ³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 303 mg/m ³ 8 hours. TWA: 100 ppm 8 hours.
Isopentane	ACGIH TLV (United States, 3/2017). TWA: 1000 ppm 8 hours.
Methanol	Safe Work Australia (Australia, 1/2014). Absorbed through skin. STEL: 328 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m ³ 8 hours.

Section 8. Exposure controls and personal protection

TWA: 200 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, vapour 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**
- 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** : 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

Appearance

- Physical state** : Liquid. [Clear.]
- Colour** : Colourless.
- Odour** : Not available.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point** : -98°C (-144.4°F)
- Boiling point** : 65°C (149°F)
- Flash point** : Closed cup: 10°C (50°F)

Section 9. Physical and chemical properties

Evaporation rate	: >1 (butyl acetate = 1)
Flammability (solid, gas)	: Not applicable.
Lower and upper explosive (flammable) limits	: Lower: 6% Upper: 36.5%
Vapour pressure	: 13.3 kPa (100 mm Hg) [room temperature]
Vapour density	: 1.1 [Air = 1]
Relative density	: 0.79
Density	: 0.79 g/cm ³
Solubility	: Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity	: <input checked="" type="checkbox"/> No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: <input checked="" type="checkbox"/> The product is stable.
Possibility of hazardous reactions	: <input checked="" type="checkbox"/> Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: <input checked="" type="checkbox"/> 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. Do not allow vapour to accumulate in low or confined areas.
Incompatible materials	: <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: <input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> tert-Butyl methyl ether	LC50 Inhalation Vapour	Rat	41000 mg/m ³	4 hours
	LC50 Inhalation Vapour	Rat	23576 ppm	4 hours
	LD50 Oral	Rat	4 g/kg	-
2-Ethoxy-2-methylpropane	LC50 Inhalation Vapour	Rat	36200 mg/m ³	4 hours
	LD50 Oral	Rat	7150 mg/kg	-
2-Methylbut-2-ene	LC50 Inhalation Vapour	Rat	>61000 ppm	4 hours
	LD50 Oral	Rat	1602 mg/kg	-
2-methoxy-2-methylbutane pentane	LC50 Inhalation Vapour	Rat	364 g/m ³	4 hours
	LC50 Inhalation Vapour	Rat	14100 ppm	4 hours
2-Methylpropan-2-ol	LD50 Oral	Rat	2733 mg/kg	-
	LC50 Inhalation Vapour	Rat	280000 mg/m ³	4 hours
Isopentane	LC50 Inhalation Vapour	Rat	145000 ppm	1 hours
	LC50 Inhalation Vapour	Rat	64000 ppm	4 hours
Methanol	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethoxy-2-methylpropane	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Moderate irritant	Rabbit	-	4 hours 500 microliters	-
2-methoxy-2-methylbutane	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Severe irritant	Rabbit	-	4 hours 500 microliters	-
2-Methylpropan-2-ol	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Conclusion/Summary

Skin : Repeated exposure may cause skin dryness or cracking.

Sensitisation

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Ethoxy-2-methylpropane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-Methylbut-2-ene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-methoxy-2-methylbutane	Category 3	Not applicable.	Narcotic effects
pentane	Category 3	Not applicable.	Narcotic effects
2-Methylpropan-2-ol	Category 3	Not applicable.	Respiratory tract irritation
Isopentane	Category 3	Not applicable.	Narcotic effects
Methanol	Category 1	Not determined	Not determined

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
Methylbut-2-ene	ASPIRATION HAZARD - Category 1
pentane	ASPIRATION HAZARD - Category 1
Isopentane	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
- Ingestion** : No specific data.

Delayed and immediate effects as well as 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** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : Suspected of causing genetic defects.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> Oral	7921.3 mg/kg
Dermal	30000 mg/kg
Inhalation (vapours)	235.7 mg/l

Other information : 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.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
tert-Butyl methyl ether	Acute EC50 472 mg/l Fresh water	Daphnia	48 hours
	Acute IC50 491 mg/l Fresh water	Algae	72 hours
	Acute LC50 672000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 26 mg/l Marine water	Daphnia	28 days
	Chronic NOEC 3.04 mg/l Fresh water	Fish	21 days
2-Methylbut-2-ene	Acute EC50 3.84 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
2-methoxy-2-methylbutane	Acute EC50 >100000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 >100000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 >100000 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 100000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
2-Methylpropan-2-ol	Acute EC50 5504000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 6410000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Isopentane	Acute EC50 2.3 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 3.1 mg/l	Fish - Oncorhynchus mykiss	96 hours
Methanol	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 3289 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 290 mg/l Fresh water	Fish - Danio rerio - Egg	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-Methylbut-2-ene	OECD 301D Ready Biodegradability - Closed Bottle Test	7 % - Not readily - 28 days	-	-
2-Methylpropan-2-ol	301E Ready Biodegradability - Modified OECD Screening Test	43 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
tert-Butyl methyl ether	-	50%; 3.2 day(s)	-
2-Methylbut-2-ene	-	-	Not readily
2-Methylpropan-2-ol	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
tert-Butyl methyl ether	1.04	1.5	low
2-Ethoxy-2-methylpropane	1.48	-	low
2-Methylbut-2-ene	2.67	-	low
2-methoxy-2-methylbutane	1.55	-	low
pentane	3.45	171	low
2-Methylpropan-2-ol	0.317	5.01	low
Isopentane	3	171	low
Methanol	-0.77	<10	low

Mobility in soil

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

Section 12. Ecological information

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

Section 13. Disposal considerations

Disposal methods : 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. Vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

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 Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

<u>Ingredient name</u>	<u>Schedule</u>
<input checked="" type="checkbox"/> Methanol	Restricted hazardous chemical [For spray painting if the substance contains more than 1% by volume]

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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.

Section 15. Regulatory information

Inventory list

Australia	: Not determined.
Canada	: At least one component is not listed in DSL but all such components are listed in NDSL.
China	: Not determined.
Europe	: All components are listed or exempted.
Japan	: <input checked="" type="checkbox"/> Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: <input checked="" type="checkbox"/> All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: <input checked="" type="checkbox"/> Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 30/04/2018
Date of previous issue	: 05/11/2014
Version	: 2

Key to abbreviations	: ADG = Australian Dangerous Goods ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals 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) NOHSC = National Occupational Health and Safety Commission SUSMP = Standard Uniform Schedule of Medicine and Poisons UN = United Nations
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Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 2, H341 Carc. 2, H351 STOT SE 2, H371 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

References	: Not available.
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Indicates information that has changed from previously issued version.

Notice to reader

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