

# SAFETY DATA SHEET

ASTM D3710 Quantitative Calibration Mix - Varied - Testmix, Part Number CP741033

## Section 1. Identification

**Product identifier** : ASTM D3710 Quantitative Calibration Mix - Varied - Testmix, Part Number CP741033

**Part no.** : CP741033

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

**Material uses** : Reagents and Standards for Analytical Chemistry Laboratory Use  
1 ml vials

**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  
 H360 REPRODUCTIVE TOXICITY (Fertility) - Category 1A  
 H360 REPRODUCTIVE TOXICITY (Unborn child) - Category 1A  
 H335 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3  
 H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3  
 H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2  
 H304 ASPIRATION HAZARD - Category 1  
 H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1  
 H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

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: 7%

### GHS label elements

**Hazard pictograms** :



**Signal word** : DANGER

## Section 2. Hazard(s) identification

- Hazard statements** : H225 - Highly flammable liquid and vapour.  
H319 - Causes serious eye irritation.  
H315 - Causes skin irritation.  
H360 - May damage fertility or the unborn child.  
H304 - May be fatal if swallowed and enters airways.  
H335 - May cause respiratory irritation.  
H336 - May cause drowsiness or dizziness.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H410 - Very toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P281 - Use personal protective equipment as required.  
P280 - Wear protective gloves. Wear eye or face protection.  
P210 - Keep away from heat, 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.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P260 - Do not breathe vapour.  
P264 - Wash hands thoroughly after handling.
- Response** : P391 - Collect spillage.  
P314 - Get medical attention if you feel unwell.  
P308 + P313 - IF exposed or concerned: Get medical attention.  
P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.  
P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.  
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
p-Xylene	≥10 - ≤30	106-42-3
Toluene	≥10 - ≤30	108-88-3
n-Heptane	≥10 - ≤30	142-82-5
Isopentane	≥10 - ≤30	78-78-4
pentane	≤10	109-66-0
n-Hexane	<10	110-54-3
2-Methylpentane	≤10	107-83-5
2,4-Dimethylpentane	≤10	108-08-7
Propylbenzene	≤10	103-65-1
Octane	≤10	111-65-9
Butylbenzene	≤10	104-51-8
dodecane	≤5	112-40-3
Tridecane	≤5	629-50-5

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.
- Inhalation** : 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen 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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

## Section 4. First aid measures

- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

- Inhalation** :  Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

### 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. 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. Firefighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, 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. 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.

## Section 5. Firefighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide
- 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.
- Hazchem code** : 3YE(3)

## 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 spilt material. Shut off all ignition sources. No flames, 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** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : 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. Collect spillage.

### 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. 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 vapour or mist. Do not swallow. 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.

## Section 7. Handling and storage

**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
p-Xylene	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 655 mg/m <sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 350 mg/m <sup>3</sup> 8 hours. TWA: 80 ppm 8 hours.
Toluene	<b>Safe Work Australia (Australia, 1/2014).</b> <b>Absorbed through skin.</b> STEL: 574 mg/m <sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 191 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
n-Heptane	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 2050 mg/m <sup>3</sup> 15 minutes. STEL: 500 ppm 15 minutes. TWA: 1640 mg/m <sup>3</sup> 8 hours. TWA: 400 ppm 8 hours.
Isopentane	<b>ACGIH TLV (United States, 3/2017).</b> TWA: 1000 ppm 8 hours.
pentane	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 2210 mg/m <sup>3</sup> 15 minutes. STEL: 750 ppm 15 minutes. TWA: 1770 mg/m <sup>3</sup> 8 hours. TWA: 600 ppm 8 hours.
n-Hexane	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 72 mg/m <sup>3</sup> 8 hours. TWA: 20 ppm 8 hours.
2-Methylpentane	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 3500 mg/m <sup>3</sup> 15 minutes. STEL: 1000 ppm 15 minutes. TWA: 1760 mg/m <sup>3</sup> 8 hours. TWA: 500 ppm 8 hours.
2,4-Dimethylpentane	<b>ACGIH TLV (United States, 3/2017).</b> TWA: 400 ppm 8 hours. TWA: 1640 mg/m <sup>3</sup> 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m <sup>3</sup> 15 minutes.
Octane	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 1750 mg/m <sup>3</sup> 15 minutes. STEL: 375 ppm 15 minutes. TWA: 1400 mg/m <sup>3</sup> 8 hours. TWA: 300 ppm 8 hours.

## Section 8. Exposure controls and personal protection

- 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 to light yellow.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: <-56°C (<-68.8°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not applicable.

## Section 9. Physical and chemical properties

<b>Lower and upper explosive (flammable) limits</b>	: Lower: 1% Upper: 83%
<b>Vapour pressure</b>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility</b>	: Insoluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 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.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: 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
p-Xylene	LC50 Inhalation Vapour	Rat	4550 ppm	4 hours
	LD50 Oral	Rat	3910 mg/kg	-
Toluene	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	12400 mg/kg	-
	LD50 Dermal	Rat	12000 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-
n-Heptane	LC50 Inhalation Vapour	Rat	103 g/m <sup>3</sup>	4 hours
	LC50 Inhalation Vapour	Rat	48000 ppm	4 hours
Isopentane	LC50 Inhalation Vapour	Rat	280000 mg/m <sup>3</sup>	4 hours
pentane	LC50 Inhalation Vapour	Rat	364 g/m <sup>3</sup>	4 hours
n-Hexane	LC50 Inhalation Vapour	Rat - Male, Female	>31.86 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	48000 ppm	4 hours
	LD50 Oral	Rat	15840 mg/kg	-
Propylbenzene	LD50 Oral	Rat	6040 mg/kg	-
Octane	LC50 Inhalation Vapour	Rat	118 g/m <sup>3</sup>	4 hours
	LC50 Inhalation Vapour	Rat	25260 ppm	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-
dodecane	LC50 Inhalation Dusts and mists	Rat - Male, Female	5.6 mg/l	4 hours
	LD50 Dermal	Rabbit - Male,	>5000 mg/kg	-



## Section 11. Toxicological information

Tridecane	LD50 Oral	Female Rat - Male, Female	>5000 mg/kg	-
	LC50 Inhalation Vapour	Rat - Male, Female	≥6100 mg/l	4 hours
	LD50 Dermal	Rabbit - Male, Female	>5000 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	870 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
n-Hexane dodecane	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rat	-	10 milligrams	-
	Skin - Moderate irritant	Rabbit	-	96 hours 300 microliters	-
Tridecane	Skin - Moderate irritant	Rabbit	-	24 hours 0.05 Milliliters	-
	Skin - Severe irritant	Rabbit	-	24 hours 0.05 Milliliters	-

### 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
p-Xylene	Category 3	Not applicable.	Respiratory tract irritation
n-Heptane	Category 3	Not applicable.	Narcotic effects
Isopentane	Category 3	Not applicable.	Narcotic effects
pentane	Category 3	Not applicable.	Narcotic effects
n-Hexane	Category 3	Not applicable.	Narcotic effects
2-Methylpentane	Category 3	Not applicable.	Narcotic effects
2,4-Dimethylpentane	Category 3	Not applicable.	Narcotic effects
Propylbenzene	Category 3	Not applicable.	Respiratory tract irritation

**Section 11. Toxicological information**

Octane	Category 3	Not applicable.	Narcotic effects
Butylbenzene	Category 3	Not applicable.	Respiratory tract irritation
dodecane	Category 3	Not applicable.	Respiratory tract irritation
Tridecane	Category 3	Not applicable.	Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Not determined	Not determined
n-Hexane	Category 2	Not determined	Not determined

**Aspiration hazard**

Name	Result
ASTM D3710 Quantitative Calibration Mix - Varied - Testmix, Part Number CP741033	ASPIRATION HAZARD - Category 1
n-Heptane	ASPIRATION HAZARD - Category 1
Isopentane	ASPIRATION HAZARD - Category 1
pentane	ASPIRATION HAZARD - Category 1
n-Hexane	ASPIRATION HAZARD - Category 1
2-Methylpentane	ASPIRATION HAZARD - Category 1
2,4-Dimethylpentane	ASPIRATION HAZARD - Category 1
Propylbenzene	ASPIRATION HAZARD - Category 1
Octane	ASPIRATION HAZARD - Category 1
dodecane	ASPIRATION HAZARD - Category 1
Tridecane	ASPIRATION HAZARD - Category 1

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

**Potential acute health effects**

- Eye contact** : Causes serious eye irritation.
- Inhalation** :  Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

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

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** :  Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

## Section 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

### 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** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** :  May damage the unborn child.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** :  May damage fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Dermal	6966.7 mg/kg
Inhalation (vapours)	69.67 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
p-Xylene	Acute EC50 3200 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4730 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Toluene	Acute EC50 433 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling,	48 hours

**Section 12. Ecological information**

	Acute LC50 5500 µg/l Fresh water	Weanling) Fish - Oncorhynchus kisutch - Fry	96 hours
n-Heptane	Chronic NOEC 0.74 mg/l Acute LC50 375000 µg/l Fresh water	Daphnia - Ceriodaphnia dubia Fish - Oreochromis mossambicus	7 days 96 hours
Isopentane	Acute EC50 2.3 mg/l Acute LC50 3.1 mg/l	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss	48 hours 96 hours
n-Hexane	Acute LC50 2500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Propylbenzene	Acute EC50 1800 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
Butylbenzene	Acute LC50 1550 µg/l Fresh water Acute EC50 340 µg/l Fresh water	Fish - Oncorhynchus mykiss Daphnia - Daphnia magna - Neonate	96 hours 48 hours
Tridecane	Acute EC50 >1000 mg/l	Algae	72 hours

**Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
dodecane	OECD 301F Ready Biodegradability - Manometric Respirometry Test	76.6 % - Readily - 28 days	-	-
Tridecane	OECD 301F Ready Biodegradability - Manometric Respirometry Test	79 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Toluene	-	-	Readily
Octane	-	-	Readily
dodecane	-	-	Readily
Tridecane	-	-	Readily

**Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
p-Xylene	3.15	8.1 to 25.9	low
Toluene	2.73	90	low
n-Heptane	4.66	552	high
Isopentane	3	171	low
pentane	3.45	171	low
n-Hexane	4	501.187	high
2-Methylpentane	3.74	-	low
2,4-Dimethylpentane	3.9	-	low
Propylbenzene	3.69	-	low
Octane	5.18	198.7	low
Butylbenzene	4.38	-	high
dodecane	6.98	239.88	low
Tridecane	7.54	-	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 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

**ADG** : **Hazchem code** 3YE(3)

**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

No listed substance

### 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.

### Inventory list

**Australia** : Not determined.

**Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.

**China** : All components are listed or exempted.

## Section 15. Regulatory information

<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : All components are listed or exempted.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: <input checked="" type="checkbox"/> Not determined.

## Section 16. Any other relevant information

### History

<b>Date of issue/Date of revision</b>	: 28/02/2018
<b>Date of previous issue</b>	: 31/03/2016
<b>Version</b>	: 4

### 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

### Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> Flam. Liq. 2, H225	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Repr. 1A, H360 (Fertility)	Calculation method
Repr. 1A, H360 (Unborn child)	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Expert judgment
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

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