

SAFETY DATA SHEET

Test Mixture 14 GASOH, Part Number CP734420

Section 1. Identification

1.1 Product identifier

Product name : Test Mixture 14 GASOH, Part Number CP734420
Part no. : CP734420
Validation date : 3/26/2018

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

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

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2
 H302 ACUTE TOXICITY (oral) - Category 4
 H312 ACUTE TOXICITY (dermal) - Category 4
 H318 SERIOUS EYE DAMAGE - Category 1
 H340 GERM CELL MUTAGENICITY - Category 1
 H350 CARCINOGENICITY - Category 1A
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, liver) - Category 2
 H304 ASPIRATION HAZARD - Category 1
Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: > 60%
 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: > 60%

2.2 GHS label elements

Hazard pictograms :



Signal word :

Danger

Section 2. Hazards identification

Hazard statements : H225 - Highly flammable liquid and vapor.
H302 + H312 - Harmful if swallowed or in contact with skin.
H318 - Causes serious eye damage.
H340 - May cause genetic defects.
H350 - May cause cancer.
H360 - May damage the unborn child.
H304 - May be fatal if swallowed and enters airways.
H336 - May cause drowsiness or dizziness.
H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys, liver)

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
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.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response : P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. 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 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

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 : Avoid contact with skin and clothing. Wash thoroughly after handling.

2.3 Other hazards

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Pentane	≥75 - ≤90	109-66-0
Methanol	≤2.5	67-56-1
Butanone	≤1.4	78-93-3
Propan-2-ol	≤2.3	67-63-0
2-methoxy-2-methylbutane	≤1.3	994-05-8
Ethanol	≤1.2	64-17-5
2-Methylpropan-1-ol	≤1.2	78-83-1
Propan-1-ol	≤2	71-23-8
tert-Butyl methyl ether	≤1.1	1634-04-4
Butan-1-ol	≤1.1	71-36-3
2-Methylpropan-2-ol	≤1.8	75-65-0
Butan-2-ol	≤1.7	78-92-2
benzene	<1	71-43-2

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

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash skin thoroughly with soap and water or use recognized 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. Chemical burns must be treated promptly by a physician. 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. 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.

4.2 Most important symptoms/effects, acute and delayed

Section 4. First aid measures

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : Harmful if swallowed. 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
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

4.3 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. Fire-fighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Formaldehyde.

5.3 Advice for firefighters

- 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

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials 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 8. Exposure controls/personal protection

Butanone

Absorbed through skin.

TWA: 200 ppm 8 hours.
 TWA: 262 mg/m³ 8 hours.
 STEL: 250 ppm 15 minutes.
 STEL: 328 mg/m³ 15 minutes.

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

Absorbed through skin.

TWA: 200 ppm 8 hours.
 TWA: 260 mg/m³ 8 hours.
 STEL: 250 ppm 15 minutes.
 STEL: 325 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2016).

Absorbed through skin.

TWA: 200 ppm 10 hours.
 TWA: 260 mg/m³ 10 hours.
 STEL: 250 ppm 15 minutes.
 STEL: 325 mg/m³ 15 minutes.

OSHA PEL (United States, 6/2016).

TWA: 200 ppm 8 hours.
 TWA: 260 mg/m³ 8 hours.

ACGIH TLV (United States, 3/2017).

TWA: 200 ppm 8 hours.
 TWA: 590 mg/m³ 8 hours.
 STEL: 300 ppm 15 minutes.
 STEL: 885 mg/m³ 15 minutes.

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

TWA: 200 ppm 8 hours.
 TWA: 590 mg/m³ 8 hours.
 STEL: 300 ppm 15 minutes.
 STEL: 885 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2016).

TWA: 200 ppm 10 hours.
 TWA: 590 mg/m³ 10 hours.
 STEL: 300 ppm 15 minutes.
 STEL: 885 mg/m³ 15 minutes.

OSHA PEL (United States, 6/2016).

TWA: 200 ppm 8 hours.
 TWA: 590 mg/m³ 8 hours.

ACGIH TLV (United States, 3/2017).

TWA: 200 ppm 8 hours.
 STEL: 400 ppm 15 minutes.

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

TWA: 400 ppm 8 hours.
 TWA: 980 mg/m³ 8 hours.
 STEL: 500 ppm 15 minutes.
 STEL: 1225 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2016).

TWA: 400 ppm 10 hours.
 TWA: 980 mg/m³ 10 hours.
 STEL: 500 ppm 15 minutes.
 STEL: 1225 mg/m³ 15 minutes.

OSHA PEL (United States, 6/2016).

TWA: 400 ppm 8 hours.
 TWA: 980 mg/m³ 8 hours.

ACGIH TLV (United States, 3/2017).

TWA: 20 ppm 8 hours.

ACGIH TLV (United States, 3/2017).

Propan-2-ol

2-methoxy-2-methylbutane

Ethanol

Section 8. Exposure controls/personal protection

<p>2-Methylpropan-1-ol</p>	<p>STEL: 1000 ppm 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. NIOSH REL (United States, 10/2016). TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. OSHA PEL (United States, 6/2016). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. ACGIH TLV (United States, 3/2017). TWA: 50 ppm 8 hours. TWA: 152 mg/m³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 50 ppm 8 hours. TWA: 150 mg/m³ 8 hours. NIOSH REL (United States, 10/2016). TWA: 50 ppm 10 hours. TWA: 150 mg/m³ 10 hours. OSHA PEL (United States, 6/2016). TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.</p>
<p>Propan-1-ol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 200 ppm 8 hours. TWA: 500 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 625 mg/m³ 15 minutes. NIOSH REL (United States, 10/2016). Absorbed through skin. TWA: 200 ppm 10 hours. TWA: 500 mg/m³ 10 hours. STEL: 250 ppm 15 minutes. STEL: 625 mg/m³ 15 minutes. OSHA PEL (United States, 6/2016). TWA: 200 ppm 8 hours. TWA: 500 mg/m³ 8 hours. ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours.</p>
<p>tert-Butyl methyl ether</p>	<p>ACGIH TLV (United States, 3/2017). TWA: 50 ppm 8 hours.</p>
<p>Butan-1-ol</p>	<p>ACGIH TLV (United States, 3/2017). TWA: 20 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. CEIL: 50 ppm CEIL: 150 mg/m³ NIOSH REL (United States, 10/2016). Absorbed through skin. CEIL: 50 ppm CEIL: 150 mg/m³ OSHA PEL (United States, 6/2016). TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.</p>
<p>2-Methylpropan-2-ol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. STEL: 150 ppm 15 minutes.</p>

Section 8. Exposure controls/personal protection

<p>Butan-2-ol</p>	<p>STEL: 450 mg/m³ 15 minutes. ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours. TWA: 303 mg/m³ 8 hours. NIOSH REL (United States, 10/2016). TWA: 100 ppm 10 hours. TWA: 300 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 450 mg/m³ 15 minutes. OSHA PEL (United States, 6/2016). TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hours. TWA: 305 mg/m³ 8 hours. ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours. TWA: 303 mg/m³ 8 hours. NIOSH REL (United States, 10/2016). TWA: 100 ppm 10 hours. TWA: 305 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 455 mg/m³ 15 minutes. OSHA PEL (United States, 6/2016). TWA: 150 ppm 8 hours. TWA: 450 mg/m³ 8 hours.</p>
<p>benzene</p>	<p>ACGIH TLV (United States, 3/2017). Absorbed through skin. TWA: 0.5 ppm 8 hours. TWA: 1.6 mg/m³ 8 hours. STEL: 2.5 ppm 15 minutes. STEL: 8 mg/m³ 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes. OSHA PEL Z2 (United States, 2/2013). TWA: 10 ppm 8 hours. CEIL: 25 ppm AMP: 50 ppm 10 minutes. NIOSH REL (United States, 10/2016). TWA: 0.1 ppm 10 hours. STEL: 1 ppm 15 minutes. OSHA PEL (United States, 6/2016). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.</p>

8.2 Exposure controls

Appropriate engineering controls

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

Environmental exposure controls

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

Section 8. Exposure controls/personal protection

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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. 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

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Colorless.
- Odor** : Characteristic. / Gasoline-like
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : -130°C (-202°F)
- Boiling point** : 36°C (96.8°F)
- Flash point** : Closed cup: -50°C (-58°F)
- Evaporation rate** : 28.6 (butyl acetate = 1)
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Lower: 1.5%
Upper: 7.8%
- Vapor pressure** : 56.8 kPa (426 mm Hg) [room temperature]
- Vapor density** : 2.5 [Air = 1]
- Relative density** : 0.63

Section 9. Physical and chemical properties

Solubility	: Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: 260°C (500°F)
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Pentane	LC50 Inhalation Vapor	Rat	364 g/m ³	4 hours
	Methanol	Rat	145000 ppm	1 hours
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
Butanone	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	LC50 Inhalation Gas.	Rat	11243 ppm	4 hours
Propan-2-ol	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
	LD50 Dermal	Rabbit	12800 mg/kg	-
2-methoxy-2-methylbutane	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Oral	Rat	1602 mg/kg	-
Ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m ³	4 hours
	LD50 Oral	Rat	7 g/kg	-
2-Methylpropan-1-ol	LC50 Inhalation Vapor	Rat	19200 mg/m ³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	2460 mg/kg	-
Propan-1-ol	LC50 Inhalation Vapor	Rat - Male, Female	>33.8 mg/l	4 hours
	LD50 Dermal	Rabbit	5040 mg/kg	-
	LD50 Oral	Rat	1870 mg/kg	-
tert-Butyl methyl ether	LC50 Inhalation Vapor	Rat	41000 mg/m ³	4 hours
	LC50 Inhalation Vapor	Rat	23576 ppm	4 hours
	LD50 Oral	Rat	4 g/kg	-

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Butan-1-ol	LC50 Inhalation Vapor	Rat	24000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
2-Methylpropan-2-ol	LC50 Inhalation Vapor	Rat	14100 ppm	4 hours
	LD50 Oral	Rat	2733 mg/kg	-
Butan-2-ol	LC50 Inhalation Vapor	Rat	48500 mg/m ³	4 hours
	LC50 Inhalation Vapor	Rat	8000 ppm	4 hours
benzene	LD50 Oral	Rat	2054 mg/kg	-
	LC50 Inhalation Vapor	Rat	13700 ppm	4 hours
	LD50 Oral	Rat	930 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Butanone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
2-methoxy-2-methylbutane	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
Ethanol	Skin - Severe irritant	Rabbit	-	4 hours 500 microliters	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Propan-1-ol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Butan-1-ol	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Milliliters	-
2-Methylpropan-2-ol	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
Butan-2-ol	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
benzene	Eyes - Severe irritant	Rabbit	-	0.1 Milliliters	-
	Eyes - Moderate irritant	Rabbit	-	88 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-

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	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Conclusion/Summary

Skin : Repeated exposure may cause skin dryness or cracking.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Propan-2-ol	-	3	-
Ethanol	-	1	-
tert-Butyl methyl ether	-	3	-
benzene	+	1	Known to be a human carcinogen.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Pentane	Category 3	Not applicable.	Narcotic effects central nervous system (CNS) and optic nerve
Methanol	Category 1	Not determined	
	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butanone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propan-2-ol	Category 3	Not applicable.	Narcotic effects Respiratory tract irritation and Narcotic effects
2-methoxy-2-methylbutane	Category 3	Not applicable.	
Ethanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-Methylpropan-1-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propan-1-ol	Category 3	Not applicable.	Narcotic effects Respiratory tract irritation and Narcotic effects
tert-Butyl methyl ether	Category 3	Not applicable.	
Butan-1-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

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2-Methylpropan-2-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butan-2-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
benzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Butanone	Category 2	Not determined	kidneys
Propan-2-ol	Category 2	Not determined	liver
benzene	Category 1	Oral	haematopoietic system
		Inhalation	haematopoietic system

Aspiration hazard

Name	Result
Test Mixture 14 GASOH, Part Number CP734420	ASPIRATION HAZARD - Category 1
pentane	ASPIRATION HAZARD - Category 1
Butan-1-ol	ASPIRATION HAZARD - Category 1
benzene	ASPIRATION HAZARD - Category 1

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

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : Harmful if swallowed. 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
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:
 pain or irritation
 redness
 dryness
 cracking
 blistering may occur
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 stomach pains
 nausea or vomiting
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : May cause genetic defects.
- Teratogenicity** : May damage the unborn child.
- 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	521.1 mg/kg
Dermal	1246 mg/kg
Inhalation (gases)	786223.8 ppm
Inhalation (vapors)	109.9 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

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
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
Butanone	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
	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
Propan-2-ol	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 10100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 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
Ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
2-Methylpropan-1-ol	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 µl/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.375 µl/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
	Acute LC50 600 mg/l Marine water	Crustaceans - Artemia salina	48 hours
Propan-1-ol	Acute LC50 1030000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1330000 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 4000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 4480000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
tert-Butyl methyl ether	Acute LC50 1000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 2950000 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 3800000 µg/l Marine water	Fish - Alburnus alburnus	96 hours
	Acute EC50 472 mg/l Fresh water	Daphnia	48 hours
Butan-1-ol	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-Methylpropan-2-ol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 225 mg/l Fresh water	Algae	96 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Butan-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
benzene	Acute EC50 4227000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3670000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 29000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1600000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 9230 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 21 mg/l Marine water	Crustaceans - Artemia salina	48 hours

Section 12. Ecological information

	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorboscha - Fry	96 hours
	Chronic NOEC 98 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-Methylpropan-2-ol	301E Ready Biodegradability - Modified OECD Screening Test	43 % - 28 days	-	-
benzene	301C Ready Biodegradability - Modified MITI Test (I)	100 % - 14 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Propan-2-ol	-	-	Readily
Ethanol	-	-	Readily
2-Methylpropan-1-ol	-	-	Readily
Propan-1-ol	-	-	Readily
tert-Butyl methyl ether	-	50%; 3.2 day(s)	-
Butan-1-ol	-	-	Readily
2-Methylpropan-2-ol	-	-	Inherent
Butan-2-ol	-	-	Readily
benzene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
pentane	3.45	171	low
Methanol	-0.77	<10	low
Butanone	0.3	-	low
Propan-2-ol	0.05	-	low
2-methoxy-2-methylbutane	1.55	-	low
Ethanol	-0.35	0.5	low
2-Methylpropan-1-ol	1	3	low
Propan-1-ol	0.2	-	low
tert-Butyl methyl ether	1.04	1.5	low
Butan-1-ol	1	-	low
2-Methylpropan-2-ol	0.317	5.01	low
Butan-2-ol	0.61	-	low
benzene	2.13	11	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods

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

United States - RCRA Toxic hazardous waste "U" List






Ingredient	CAS #	Status	Reference number
Methanol (I); Methyl alcohol (I)	67-56-1	Listed	U154
Methyl ethyl ketone (MEK) (I,T); 2-Butanone (I,T)	78-93-3	Listed	U159
Isobutyl alcohol (I,T); 1-Propanol, 2-methyl- (I,T)	78-83-1	Listed	U140
1-Butanol (I); n-Butyl alcohol (I)	71-36-3	Listed	U031

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN1993	UN1993	UN1993	UN1993	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (pentane, Methanol)	FLAMMABLE LIQUID, N.O.S. (pentane, Methanol)	LIQUIDO INFLAMABLE, N. E.P. (pentane, Methanol)	FLAMMABLE LIQUID, N.O.S. (pentane, Methanol)	Flammable liquid, n.o.s. (pentane, Methanol)
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.

Additional information

Section 14. Transport information

Remarks: Excepted Quantity

- DOT Classification** : **Reportable quantity** 1470.6 lbs / 667.65 kg [279.96 gal / 1059.8 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
Limited quantity Yes.
Packaging instruction Exceptions: 150. Non-bulk: 202. Bulk: 242.
Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L.
Special provisions IB2, T7, TP1, TP8, TP28
- TDG Classification** : **Product classified as per the following sections of the Transportation of Dangerous Goods Regulations:** 2.18-2.19 (Class 3).
Explosive Limit and Limited Quantity Index 1
Passenger Carrying Road or Rail Index 5
Special provisions 16, 150
- Mexico Classification** : **Special provisions** 274
- IMDG** : **Emergency schedules** F-E, _S-E_
Special provisions 274
- IATA** : **The environmentally hazardous substance mark may appear if required by other transportation regulations.**
Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.
Special provisions A3
- 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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- U.S. Federal regulations** : **TSCA 8(a) PAIR:** pentane; 2-methoxy-2-methylbutane; 2-Methylpropan-2-ol; Butan-2-ol
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 307: benzene
Clean Water Act (CWA) 311: benzene; Cyclohexane
Clean Air Act (CAA) 112 regulated flammable substances: pentane
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed
- Clean Air Act Section 602 Class I Substances** : Not listed
- Clean Air Act Section 602 Class II Substances** : Not listed
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Listed
- SARA 302/304**

Section 15. Regulatory information

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : **F** FLAMMABLE LIQUIDS - Category 2
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (dermal) - Category 4
 SERIOUS EYE DAMAGE - Category 1
 GERM CELL MUTAGENICITY - Category 1
 CARCINOGENICITY - Category 1A
 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, liver) - Category 2
 ASPIRATION HAZARD - Category 1
 HNOC - Defatting irritant

Composition/information on ingredients

Name	%	Classification
Pentane	≥75 - ≤90	FLAMMABLE LIQUIDS - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant
Methanol	≤2.5	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), optic nerve) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Butanone	≤1.4	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) - Category 2
Propan-2-ol	≤2.3	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2 HNOC - Defatting irritant
2-methoxy-2-methylbutane	≤1.3	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Ethanol	≤1.2	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A

Section 15. Regulatory information

2-Methylpropan-1-ol	≤1.2	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 FLAMMABLE LIQUIDS - Category 3 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (haematopoietic system) (oral) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (haematopoietic system) (inhalation) - Category 1 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant
Propan-1-ol	≤2	
tert-Butyl methyl ether	≤1.1	
Butan-1-ol	≤1.1	
2-Methylpropan-2-ol	≤1.8	
Butan-2-ol	≤1.7	
benzene	<1	

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Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Methanol	67-56-1	≤2.5
	Butanone	78-93-3	≤1.4
	tert-Butyl methyl ether	1634-04-4	≤1.1
	Butan-1-ol	71-36-3	≤1.1
	2-Methylpropan-2-ol	75-65-0	≤1.8
	Butan-2-ol	78-92-2	≤1.7
	benzene	71-43-2	<1
Supplier notification	Methanol	67-56-1	≤2.5
	Butanone	78-93-3	≤1.4
	tert-Butyl methyl ether	1634-04-4	≤1.1
	Butan-1-ol	71-36-3	≤1.1
	2-Methylpropan-2-ol	75-65-0	≤1.8
	Butan-2-ol	78-92-2	≤1.7
	benzene	71-43-2	<1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: PENTANE; METHANOL; METHYL ALCOHOL; ISOPROPYL ALCOHOL; 2-PROPANOL; PROPYL ALCOHOL; PROPANOL; METHYL TERT-BUTYL ETHER; ETHYL ALCOHOL; DENATURED ALCOHOL; METHYL ETHYL KETONE; 2-BUTANONE; MEK; TERT-BUTYL ALCOHOL; 2-METHYL-2-PROPANOL; ISOBUTYL ALCOHOL; SEC-BUTYL ALCOHOL; 2-BUTANOL; N-BUTYL ALCOHOL; 1-BUTANOL

New York

The following components are listed: Methanol; Methyl tert-butyl ether; Methyl ethyl ketone; 2-Butanone; Isobutanol; 1-Propanol, 2-methyl-; Butyl alcohol; 1-Butanol; Benzene

New Jersey

The following components are listed: PENTANE; METHYL ALCOHOL; METHANOL; ISOPROPYL ALCOHOL; 2-PROPANOL; PROPYL ALCOHOL; 1-PROPANOL; tert-AMYL METHYL ETHER; BUTANE, 2-METHOXY-2-METHYL-; METHYL-tert-BUTYL ETHER; PROPANE, 2-METHOXY-2-METHYL-; ETHYL ALCOHOL; ALCOHOL; METHYL ETHYL KETONE; 2-BUTANONE; tert-BUTYL ALCOHOL; 2-PROPANOL, 2-METHYL-; ISOBUTYL ALCOHOL; 1-PROPANOL, 2-METHYL-; sec-BUTYL ALCOHOL; 2-BUTANOL; n-BUTYL ALCOHOL; 1-BUTANOL; BENZENE

Pennsylvania

The following components are listed: PENTANE; METHANOL; 2-PROPANOL; 1-PROPANOL; METHYL TERT-BUTYL ETHER; DENATURED ALCOHOL; ETHANOL; 2-BUTANONE; 2-PROPANOL, 2-METHYL-; 1-PROPANOL, 2-METHYL-; 2-BUTANOL; 1-BUTANOL; BENZENE; BENZOL DILUENT

California Prop. 65

WARNING: This product can expose you to Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Benzene	Yes.	Yes.
Methanol	-	Yes.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Section 15. Regulatory information

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

Section 16. Other information

History

Date of issue	: 03/26/2018
Date of previous issue	: 04/25/2016
Version	: 5

Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (oral) - Category 4	Calculation method
ACUTE TOXICITY (dermal) - Category 4	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
GERM CELL MUTAGENICITY - Category 1	Calculation method
CARCINOGENICITY - Category 1A	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, liver) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Expert judgment

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

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.