

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

## Chemical Sample- NPD \_ For R and D Use Only, Part Number 8500-1715

### 1 . Identification of the material and supplier

#### Names

**Product name** : Chemical Sample- NPD \_ For R and D Use Only, Part Number 8500-1715  
**Part No.** : 8500-1715  
**ADG** : OCTANES solution

#### Supplier

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

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

#### Uses

**Area of application** : Industrial applications, Professional applications.  
**Material uses** : Analytical chemistry.  
1 x 1 ml

### 2 . Hazards identification

**Classification** : F; R11  
Xn; R65  
Xi; R38  
R67  
N; R50/53

**Risk phrases** : R11- Highly flammable.  
R65- Harmful: may cause lung damage if swallowed.  
R38- Irritating to skin.  
R67- Vapours may cause drowsiness and dizziness.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases** : S9- Keep container in a well-ventilated place.  
S16- Keep away from sources of ignition - No smoking.  
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S33- Take precautionary measures against static discharges.  
S36/37- Wear suitable protective clothing and gloves.  
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

**Statement of hazardous/dangerous nature** : HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

### 3 . Composition/information on ingredients

**Mixture** : Yes.

Ingredient name	CAS number	%
2,2,4-trimethylpentane	540-84-1	>60

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

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

## 4 . First-aid measures

- Inhalation** : Get medical attention immediately. 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. 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.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- 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 irritation occurs.
- 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.
- Advice to doctor** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

### Extinguishing media

- Suitable** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Highly flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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. Runoff to sewer may create fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide
- 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** : 3[Y]E

## 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : 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.
- 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.

## 7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

### Occupational exposure limits

Ingredient name	Exposure limits
2,2,4-trimethylpentane	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 300 ppm 8 hours.

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

### Exposure controls

- Engineering measures** : Use only with adequate ventilation. 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.

## 8 . Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. 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.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

- Physical state** : Liquid.
- Colour** : Clear. Colourless.
- Odour** : Gasoline-like
- Boiling point** : 99.2°C (210.6°F)
- Melting point** : -107°C (-160.6°F)
- Vapour pressure** : 5.5 kPa (41 mm Hg) [room temperature]
- Flash point** : Open cup: 10°C (50°F)
- Flammable limits** : Lower: 1.1%  
Upper: 6%
- Vapour density** : 3.93 [Air = 1]
- pH** : Not available.
- Auto-ignition temperature** : 418°C (784.4°F)
- Solubility** : Insoluble in the following materials: cold water and hot water.

## 10 . Stability and reactivity

- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : 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 vapor to accumulate in low or confined areas.
- Materials to avoid** : oxidizing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 . Toxicological information

### Potential acute health effects

- Inhalation** : Can cause central nervous system (CNS) depression. Vapours may cause drowsiness and dizziness.
- Ingestion** : Can cause central nervous system (CNS) depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. Irritating to mouth, throat and stomach.
- Skin contact** : Irritating to skin.
- Eye contact** : May cause eye irritation.

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2,4-trimethylpentane	LC50 Inhalation Vapour LD50 Oral	Rat Rat	47.4 mg/l >2500 mg/kg	1 hours -

**Conclusion/Summary** : Not available.

### Potential chronic health effects

#### Irritation/Corrosion

**Conclusion/Summary** : Not available.

#### Sensitiser

**Conclusion/Summary** : Not available.

### Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

- Chronic effects** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- 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.

### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting
- Skin** : Adverse symptoms may include the following:  
irritation  
redness
- Eyes** : No specific data.
- Target organs** : Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes.

## 12 . Ecological information

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

### Other ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
2,2,4-trimethylpentane	-	0 to 84 % - 8 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,2,4-trimethylpentane	-	-	Inherent

### Bioaccumulative potential

**12 . Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2,2,4-trimethylpentane	4.08	231	low




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

**13 . Disposal considerations**

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

**14 . Transport information**

**Additional information** : Remarks  
De minimis quantities

Regulation	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>ADG</b>	UN1262	OCTANES solution	3	II	 	<u>Hazchem code</u> 3[Y]E
<b>IMDG</b>	Not regulated.	-	-	-		-
<b>IATA</b>	UN1262	Octanes solution	3	II		<u>Passenger and Cargo Aircraft</u> Quantity limitation: 5 L Packaging instructions: 353 <u>Cargo Aircraft Only</u> Quantity limitation: 60 L Packaging instructions: 364 <u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 1 L Packaging instructions: Y341  <u>Remarks</u> Small quantity

PG\* : Packing group

## 15 . Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

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### Control of Scheduled Carcinogenic Substances

<u>Ingredient name</u>	<u>Schedule</u>
No listed substance	

**Australia inventory (AICS)** : All components are listed or exempted.

## 16 . Other information

**Date of issue** : 22/09/2014

**Date of previous issue** : 28/06/2012.

Indicates information that has changed from previously issued version.

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