

# SAFETY DATA SHEET



Test Sample - Natural Gas, Part Number 391793700

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Test Sample - Natural Gas, Part Number 391793700  
**Part No.** : 391793700  
**Validation date** : 10/17/2016

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

**Material uses** : Analytical chemistry.

### 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

H220 FLAMMABLE GASES - Category 1  
 H280 GASES UNDER PRESSURE - Compressed gas  
 Simple Asphyx. SIMPLE ASPHYXIANTS  
 H361 TOXIC TO REPRODUCTION (Fertility) - Category 2

**Ingredients of unknown toxicity** :  Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 85%

### 2.2 GHS label elements

**Hazard pictograms** :

**Signal word** :  Danger

**Hazard statements** :  H220 - Extremely flammable gas.  
 H280 - Contains gas under pressure; may explode if heated.  
 No Code(s) - May displace oxygen and cause rapid suffocation.  
 H361 - Suspected of damaging fertility.

### 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.

## Section 2. Hazards identification

- Response** : P308 + P313 - IF exposed or concerned: Get medical attention.  
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 - Eliminate all ignition sources if safe to do so.
- Storage** : P405 - Store locked up.  
P410 - Protect from sunlight.  
P403 - Store in a well-ventilated place.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Keep container tightly closed. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	CAS number
Butane	≤5	106-97-8
Isopentane	≤5	78-78-4
n-Hexane	<2.5	110-54-3
pentane	<2.5	109-66-0

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** : 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.
- 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 unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### 4.2 Most important symptoms/effects, acute and delayed

## Section 4. First aid measures

### Potential acute health effects

- Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** :  At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.
- Skin contact** :  Contact with rapidly expanding gas may cause burns or frostbite.
- Ingestion** :  As this product is a gas, refer to the inhalation section.

### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
  - reduced fetal weight
  - increase in fetal deaths
  - skeletal malformations
- Skin contact** :  Adverse symptoms may include the following:
  - reduced fetal weight
  - increase in fetal deaths
  - skeletal malformations
- Ingestion** :  Adverse symptoms may include the following:
  - 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** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- 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. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.
- 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.
- Remark** : May form explosive mixtures with air.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. 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** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. 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** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. 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. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. 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. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate 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.

- 7.2 Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

## Section 7. Handling and storage

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.  
**Industrial sector specific solutions** : Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Butane	<p><b>NIOSH REL (United States, 10/2013).</b>                      TWA: 1900 mg/m<sup>3</sup> 10 hours.                      TWA: 800 ppm 10 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 1900 mg/m<sup>3</sup> 8 hours.                      TWA: 800 ppm 8 hours.</p> <p><b>ACGIH TLV (United States, 3/2016).</b>                      STEL: 1000 ppm 15 minutes.</p>
Isopentane	<p><b>ACGIH TLV (United States, 3/2016).</b>                      TWA: 1000 ppm 8 hours.</p>
n-Hexane	<p><b>ACGIH TLV (United States, 3/2016).</b>  <b>Absorbed through skin.</b>                      TWA: 50 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 50 ppm 8 hours.                      TWA: 180 mg/m<sup>3</sup> 8 hours.</p> <p><b>NIOSH REL (United States, 10/2013).</b>                      TWA: 50 ppm 10 hours.                      TWA: 180 mg/m<sup>3</sup> 10 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b>                      TWA: 500 ppm 8 hours.                      TWA: 1800 mg/m<sup>3</sup> 8 hours.</p>
pentane	<p><b>ACGIH TLV (United States, 3/2016).</b>                      TWA: 1000 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 600 ppm 8 hours.                      TWA: 1800 mg/m<sup>3</sup> 8 hours.                      STEL: 750 ppm 15 minutes.                      STEL: 2250 mg/m<sup>3</sup> 15 minutes.</p> <p><b>NIOSH REL (United States, 10/2013).</b>                      TWA: 120 ppm 10 hours.                      TWA: 350 mg/m<sup>3</sup> 10 hours.                      CEIL: 610 ppm 15 minutes.                      CEIL: 1800 mg/m<sup>3</sup> 15 minutes.</p> <p><b>OSHA PEL (United States, 2/2013).</b>                      TWA: 1000 ppm 8 hours.                      TWA: 2950 mg/m<sup>3</sup> 8 hours.</p>

### 8.2 Exposure controls

## Section 8. Exposure controls/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, 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.
- 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: safety glasses with side-shields.
- 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** : The gas can cause asphyxiation without warning by replacing the oxygen in the air. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. If operating conditions cause high gas concentrations to be produced or any recommended or statutory exposure limit is exceeded, use an air-fed respirator or self-contained breathing apparatus. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. 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.

## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Gas.
- Color** : Colorless.
- Odor** : Not available.
- Odor threshold** : Not available.

## Section 9. Physical and chemical properties

<b>pH</b>	: Not available.
<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: Not available.
<b>Flash point</b>	: Not available.
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Relative density</b>	: <1
<b>Density</b>	: <1 g/cm <sup>3</sup> [20°C (68°F)]
<b>Solubility</b>	: <input checked="" type="checkbox"/> Not available.
<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

- 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 gas to accumulate in low or confined areas.
- 10.5 Incompatible materials** :  May react or be incompatible with 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
<input checked="" type="checkbox"/> Butane	LC50 Inhalation Vapor	Rat	658000 mg/m <sup>3</sup>	4 hours
Isopentane	LC50 Inhalation Vapor	Rat	280000 mg/m <sup>3</sup>	4 hours
n-Hexane	LC50 Inhalation Vapor	Rat	48000 ppm	4 hours
	LD50 Oral	Rat	15840 mg/kg	-
pentane	LC50 Inhalation Vapor	Rat	364 g/m <sup>3</sup>	4 hours

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-Hexane	Eyes - Mild irritant	Rabbit	-	10 milligrams	-

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Butane	Category 3	Not applicable.	Narcotic effects
Isopentane	Category 3	Not applicable.	Narcotic effects
n-Hexane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
pentane	Category 3	Not applicable.	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
n-Hexane	Category 2	Inhalation	peripheral nervous system

### Aspiration hazard

Name	Result
Isopentane	ASPIRATION HAZARD - Category 1
n-Hexane	ASPIRATION HAZARD - Category 1
pentane	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** :  Routes of entry anticipated: Inhalation.

### Potential acute health effects

**Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Inhalation** :  At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

**Skin contact** :  Contact with rapidly expanding gas may cause burns or frostbite.

**Ingestion** :  As this product is a gas, refer to the inhalation section.

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

**Eye contact** : No specific data.



## Section 11. Toxicological information

- Inhalation** : Adverse symptoms may include the following:  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations
- Skin contact** :  Adverse symptoms may include the following:  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations
- Ingestion** :  Adverse symptoms may include the following:  
 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** :  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** : Suspected of damaging fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> Hexane	Acute LC50 113000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours

### 12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<input checked="" type="checkbox"/> pentane	-	-	Readily

### 12.3 Bioaccumulative potential

## Section 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Butane	2.89	-	low
Isopentane	3	171	low
n-Hexane	4	501.187	high
pentane	3.45	171	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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. Empty pressure vessels should be returned to the supplier. 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. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

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


**Additional information** : Special provisions  
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Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information

## Section 14. Transport information

<b>DOT</b>	UN1954	Compressed gas, flammable, n.o.s. (Methane, Ethane)	2.1	-		<p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger aircraft</b> Quantity limitation: Forbidden. Packaging instructions: 173.302</p> <p><b>Cargo aircraft</b> Quantity limitation: 150 kg</p> <p><b>Remarks</b> Requires Dangerous Goods BOL</p>
<b>TDG</b>	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Ethane)	2.1	-		<p>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).</p> <p><b>Explosive Limit and Limited Quantity Index</b> 0.125</p> <p><b>ERAP Index</b> 3000</p> <p><b>Passenger Carrying Ship Index</b> Forbidden</p> <p><b>Passenger Carrying Road or Rail Index</b> Forbidden</p> <p><b>Special provisions</b> 16</p>
<b>Mexico</b>	UN1954	GAS COMPRIMIDO INFLAMABLE, N.E.P. (Methane, Ethane)	2.1	-		<p><b>Special provisions</b> 274</p>
<b>IMDG</b>	UN1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Methane, Ethane)	2.1	-		<p><b>Emergency schedules (EmS)</b> F-D, S-U</p> <p><b>Special provisions</b> 274</p>

## Section 14. Transport information

IATA	UN1954	Compressed gas, flammable, n.o.s. (Methane, Ethane)	2.1	-		<p><b><u>Passenger and Cargo Aircraft</u></b>                  Quantity limitation: Forbidden                  Packaging instructions: Forbidden</p> <p><b><u>Cargo Aircraft Only</u></b>                  Quantity limitation: 150 kg                  Packaging instructions: 200</p> <p><b><u>Limited Quantities - Passenger Aircraft</u></b>                  Quantity limitation: Forbidden                  Packaging instructions: Forbidden</p> <p><b><u>Special provisions</u></b>                  A1</p>
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PG\* : Packing group

## 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  
**United States inventory (TSCA 8b)**: All components are listed or exempted.  
 **Clean Air Act (CAA) 112 regulated flammable substances**: Methane; Propane; Isopentane; Isobutane; Ethane; Butane; 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)** : Not listed

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

#### SARA 311/312

**Classification** : Fire hazard  
 Sudden release of pressure  
 Immediate (acute) health hazard  
 Delayed (chronic) health hazard

##### Composition/information on ingredients

## Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Butane	≤5	Yes.	Yes.	No.	Yes.	No.
Isopentane	≤5	Yes.	No.	No.	Yes.	No.
n-Hexane	<2.5	Yes.	No.	No.	Yes.	Yes.
pentane	<2.5	Yes.	No.	No.	Yes.	No.

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Hexane	110-54-3	<2.5
Supplier notification	Hexane	110-54-3	<2.5

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: METHANE; MARSH GAS; PROPANE; NITROGEN; NITROGEN (LIQUIFIED); ISOPENTANE; ISOBUTANE; ETHANE; CARBON DIOXIDE; BUTANE; ARGON; HEXANE; N-HEXANE; PENTANE

#### New York

The following components are listed: Hexane

#### New Jersey

The following components are listed: METHANE; PROPANE; NITROGEN; ISOPENTANE; BUTANE, 2-METHYL-; Isobutane; PROPANE, 2-METHYL-; ETHANE; CARBON DIOXIDE; CARBONIC ACID GAS; BUTANE; ARGON; n-HEXANE; HEXANE; PENTANE

#### Pennsylvania

The following components are listed: METHANE; PROPANE; NITROGEN; BUTANE, 2-METHYL-; PROPANE, 2-METHYL-; ETHANE; CARBON DIOXIDE; BUTANE; ARGON; HEXANE; PENTANE

### California Prop. 65

No products were found.

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

**Canada inventory** : All components are listed or exempted.

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

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

## Section 15. Regulatory information

<b>Japan</b>	: <input checked="" type="checkbox"/> <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>	: All components are listed or exempted.
<b>Taiwan</b>	: <input checked="" type="checkbox"/> All components are listed or exempted.
<b>Turkey</b>	: <input checked="" type="checkbox"/> Not determined.

## Section 16. Other information

### History

<b>Date of issue</b>	: 10/17/2016
<b>Date of previous issue</b>	: 11/07/2014.
<b>Version</b>	: 3

Indicates information that has changed from previously issued version.

### Notice to reader

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