SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: HELMISTIK 1616

Intended Use of the Product

Use of the Substance/Mixture: No use is specified.

Name, Address, and Telephone of the Responsible Party

Company

Helmitin Inc.
99 Shorncliffe Rd
Toronto, Ontario, M8Z 5K7
877.823.2624

11110 Airport Road
Olive Branch, MS 38654
Phone: 877.823.2624
www.helmitin.com

Emergency Telephone Number

Emergency Number : CANUTEC 613-996-6666 / CHEMTREC 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Gas 1	H220
Compressed gas	H280
Skin Irrit. 2	H315
Muta. 1B	H340
Repr. 2	H361
STOT SE 3	H336
Asp. Tox. 1	H304

Full text of H-phrases: see section 16

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS02 GHS04 GHS07 GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H340 - May cause genetic defects.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary Statements (GHS-US) : P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.
P261 - Avoid breathing vapors, mist, or spray.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.

P280 - Wear respiratory protection, protective gloves, protective clothing, face protection, eye protection.
P301+P310 - IF SWALLOWED: Immediately call a poison center or doctor.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 - Do NOT induce vomiting.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Flammable vapors can accumulate in head space of closed systems.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	% (w/w)
Dimethyl ether	(CAS No) 115-10-6	30 - 60
Heptane, branched, cyclic and linear	(CAS No) 426260-76-6	30 - 60
n-Heptane	(CAS No) 142-82-5	10 - 30
Benzene, ethenyl-, polymer with 1-methyl-4-(1-methylethenyl)cyclohexene	(CAS No) 64536-06-7	7 - 13
Naphtha, petroleum, hydrotreated light	(CAS No) 64742-49-0	1 - 5

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes serious eye irritation. Causes skin irritation. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. May cause genetic defects. May displace oxygen and cause rapid suffocation.

Inhalation: May cause drowsiness or dizziness. May displace oxygen and cause rapid suffocation.

Skin Contact: Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Eye Contact: Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Ingestion: May be fatal if swallowed and enters airways.

Chronic Symptoms: Suspected of damaging fertility or the unborn child. May cause genetic defects.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO_2), alcohol-resistant foam, dry chemical, or sand.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture.

Reactivity: Reacts with (strong) oxidizers: (increased) risk of fire.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Exercise caution when fighting any chemical fire. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leaking gas fire, eliminate all ignition sources if safe to do so.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Burning can produce carbon monoxide, carbon dioxide, chloride and hydrocarbons. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract. . Formaldehyde. May release poisonous hydrogen sulfide. Sulfur oxides.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, gas). Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. – No smoking.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not take up in combustible material such as: saw dust or cellulosic material.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Use only non-sparking tools.

Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Extremely flammable gas.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment. Use only non-sparking tools.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: strong acids. Strong bases. Strong oxidizers.

Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Dimethyl ether (115-10-6)		
British Columbia	OEL TWA (ppm)	1000 ppm

n-Heptane (142-82-5)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	2000 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	350 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	85 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	1800 mg/m³
USA NIOSH	NIOSH REL (ceiling) (ppm)	440 ppm
USA IDLH	US IDLH (ppm)	750 ppm
Alberta	OEL STEL (mg/m³)	2050 mg/m³
Alberta	OEL STEL (ppm)	500 ppm
Alberta	OEL TWA (mg/m³)	1640 mg/m³
Alberta	OEL TWA (ppm)	400 ppm
British Columbia	OEL STEL (ppm)	500 ppm
British Columbia	OEL TWA (ppm)	400 ppm
Manitoba	OEL STEL (ppm)	500 ppm
Manitoba	OEL TWA (ppm)	400 ppm
New Brunswick	OEL STEL (mg/m³)	2050 mg/m³
New Brunswick	OEL STEL (ppm)	500 ppm
New Brunswick	OEL TWA (mg/m³)	1640 mg/m³
New Brunswick	OEL TWA (ppm)	400 ppm
Newfoundland & Labrador	OEL STEL (ppm)	500 ppm
Newfoundland & Labrador	OEL TWA (ppm)	400 ppm
Nova Scotia	OEL STEL (ppm)	500 ppm
Nova Scotia	OEL TWA (ppm)	400 ppm
Nunavut	OEL STEL (mg/m³)	2049 mg/m³
Nunavut	OEL STEL (ppm)	500 ppm
Nunavut	OEL TWA (mg/m³)	1640 mg/m³
Nunavut	OEL TWA (ppm)	400 ppm
Northwest Territories	OEL STEL (mg/m³)	2049 mg/m³
Northwest Territories	OEL STEL (ppm)	500 ppm
Northwest Territories	OEL TWA (mg/m³)	1640 mg/m³
Northwest Territories	OEL TWA (ppm)	400 ppm
Ontario	OEL STEL (ppm)	500 ppm
Ontario	OEL TWA (ppm)	400 ppm
Prince Edward Island	OEL STEL (ppm)	500 ppm
Prince Edward Island	OEL TWA (ppm)	400 ppm
Québec	VECD (mg/m³)	2050 mg/m³
Québec	VECD (ppm)	500 ppm
Québec	VEMP (mg/m³)	1640 mg/m³
Québec	VEMP (ppm)	400 ppm
Saskatchewan	OEL STEL (ppm)	500 ppm
Saskatchewan	OEL TWA (ppm)	400 ppm
Yukon	OEL STEL (mg/m³)	2000 mg/m³
Yukon	OEL STEL (ppm)	500 ppm
Yukon	OEL TWA (mg/m³)	1600 mg/m³
Yukon	OEL TWA (ppm)	400 ppm

Exposure Controls

Appropriate Engineering Controls: Gas detectors should be used when flammable gases/vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles. Gloves. Face shield. Insufficient ventilation: wear respiratory protection. Full protective flameproof clothing.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls: Do not allow the product to be released into the environment.

Consumer Exposure Controls: Do not eat, drink or smoke during use

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Gas (Aerosol)
Appearance	:	Amber or Red
Odor	:	Mild solvent
Odor Threshold	:	Not available
pH	:	Not applicable
Evaporation Rate	:	Not available
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	Propellant: -25 °C (-13 °F) ; Concentrate: 66°C (151 °F)
Flash Point	:	Propellant: -105 °C (-157 °F) ; Concentrate: -17 °C (1.4 °F)
Auto-ignition Temperature	:	Concentrate: >203 °C (397 °F)
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Propellant: 3.4%; Concentrate: 1.0%
Upper Flammable Limit	:	Propellant: 18.2%; Concentrate: 7.3
Vapor Pressure	:	Propellant: 71 psig (3682 mmHg) @20 °C; Concentrate: 141 mmHg @20 °C
Relative Vapor Density at 20 °C	:	Not available
Relative Density	:	0.78 g/mL (Concentrate)
Specific Gravity	:	0.78 @ 20C (Concentrate)
Solubility	:	Not soluble in water
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available
VOC Content (SCAQMD Rule 1168)	:	589 g/L (4.92 lbs/gal)

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts with (strong) oxidizers: (increased) risk of fire.

Chemical Stability: Extremely flammable gas.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

Incompatible Materials: strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Carbon oxides (CO, CO_2). May release poisonous hydrogen sulfide. Decomposition may produce fumes, smoke, oxides of carbon and hydrocarbons. . Sulfur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Teratogenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: May cause drowsiness or dizziness. May displace oxygen and cause rapid suffocation.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: May be fatal if swallowed and enters airways.

Chronic Symptoms: Suspected of damaging fertility or the unborn child. May cause genetic defects.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Dimethyl ether (115-10-6)	
LC50 Inhalation Rat	308.5 mg/l/4h

Naphtha, petroleum, hydrotreated light (64742-49-0)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 3160 mg/kg
LC50 Inhalation Rat	73680 ppm/4h

n-Heptane (142-82-5)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	3000 mg/kg
LC50 Inhalation Rat	103 g/m³ (Exposure time: 4 h)

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Naphtha, petroleum, hydrotreated light (64742-49-0)	
LC50 Fish 1	8.2 mg/l (Exposure time: 96 h - Species: PimephaJes promelas [static])

n-Heptane (142-82-5)	
LC50 Fish 1	375.0 mg/l (Exposure time: 96 h - Species: Cichlid fish)

Persistence and Degradability

Bioaccumulative Potential

Dimethyl ether (115-10-6)	
Log Pow	-0.18

n-Heptane (142-82-5)	
Log Pow	4.66

Mobility in Soil: Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Handle empty containers with care because residual product is flammable.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT

Proper Shipping Name : CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.(DIMETHYL ETHER, HEPTANE)
Hazard Class : 2.1
Identification Number : UN3501
Label Codes : 2.1

ERG Number : 115

In Accordance with IMDG

Proper Shipping Name : CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.(DIMETHYL ETHER, HEPTANE)
Hazard Class : 2
Identification Number : UN3501
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U

Marine pollutant : Marine pollutant

In Accordance with IATA

Proper Shipping Name : FLAMMABLE LIQUID, N.O.S. (DIMETHYL ETHER, HEPTANE)
Identification Number : UN3501
Hazard Class : 2.1
Label Codes : 2.1

*According to IATA, Forbidden to transport via passenger craft. If shipping on cargo aircraft, adhere to special provisions A1 and A187.

In Accordance with TDG

Proper Shipping Name : CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.(DIMETHYL ETHER, HEPTANE)
Hazard Class : 2.1
Identification Number : 3501
Label Codes : 2.1

Marine Pollutant (TDG) : Marine pollutant

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

Dimethyl ether (115-10-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Naphtha, petroleum, hydrotreated light (64742-49-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Heptane, branched, cyclic and linear (426260-76-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

n-Heptane (142-82-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

Benzene, ethenyl-, polymer with 1-methyl-4-(1-methylethenyl)cyclohexene **(64536-06-7)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

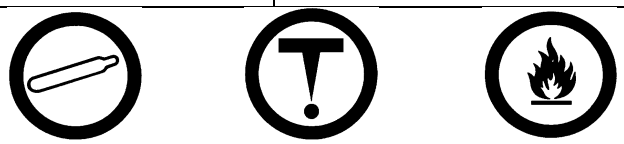
US State Regulations

Dimethyl ether (115-10-6)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

n-Heptane (142-82-5)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations

WHMIS Classification	Class A - Compressed Gas Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class B Division 1 - Flammable Gas



Dimethyl ether (115-10-6)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas

Naphtha, petroleum, hydrotreated light (64742-49-0)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Benzene, ethenyl-, polymer with 1-methyl-4-(1-methylethenyl)cyclohexene (64536-06-7)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Heptane, branched, cyclic and linear (426260-76-6)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

n-Heptane (142-82-5)
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)
IDL Concentration 1 %

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 03/24/2017

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H361	Suspected of damaging fertility or the unborn child

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2