

**Dymel™ A/Hydrocarbon Aerosol Propellant Blends**

Version 0.0

Revision Date 09/16/2015

Ref. 130000141450

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Dymel™ A/Hydrocarbon Aerosol Propellant Blends  
Tradename/Synonym : Dimethylether  
DME  
LPGs; butanes; propane

Product Use : Propellant, For professional users only.

Restrictions on use : Do not use product for anything outside of the above specified uses  
Manufacturer/Supplier : The Chemours Company FC, LLC  
1007 Market Street  
Wilmington, DE 19899  
United States of America

Product Information : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)  
Medical Emergency : 1-866-595-1473 (outside the U.S. 1-302-773-2000)  
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION****Product hazard category**

Gases under pressure	Liquefied gas
Flammable liquids	Category 1
Specific target organ toxicity - single exposure	Category 3

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**Label content**

Pictogram

:



Signal word

: Danger

Hazardous warnings

: Extremely flammable liquid and vapour.  
Contains gas under pressure; may explode if heated.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.

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Hazardous prevention measures : Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ eye protection/ face protection.  
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.  
Rinse skin with water/ shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER or doctor/ physician if you feel unwell.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Protect from sunlight. Store in a well-ventilated place.  
Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

Rapid evaporation of the liquid may cause frostbite., Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing., May cause cardiac arrhythmia., Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Dimethyl ether	115-10-6	1 - 99 %

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Butane (<0.1% butadiene)	106-97-8	1 - 99 %
Propane	74-98-6	1 - 99 %
Isobutane (<0.1% butadiene)	75-28-5	1 - 99 %

**SECTION 4. FIRST AID MEASURES**

- General advice : Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
- Inhalation : Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.
- Skin contact : Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
- Eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- Ingestion : Is not considered a potential route of exposure.
- Most important symptoms/effects, acute and delayed : Anaesthetic effects Light-headedness irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness
- Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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Notes to physician : Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Water spray, water fog, Dry chemical, Alcohol-resistant foam, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media : No applicable data available.

Specific hazards : Flammable. Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. This substance's fire decomposition by-products will include hydrofluoric acid, and possibly carbonyl fluoride. Avoid contact with these materials, which are toxic and irritating. Evacuate personnel immediately in the event of a fire involving this substance. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapours or gases may travel considerable distances to ignition source and flash back.

Special protective equipment for firefighters : Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire. Exposure to decomposition products may be a hazard to health.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers/tanks with water spray.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Evacuate personnel to safe areas. Ventilate the area. Refer to protective

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measures listed in sections 7 and 8.

- Environmental precautions : Should not be released into the environment.  
In accordance with local and national regulations.
- Spill Cleanup : If this product is spilled and not recovered, or is recovered as a waste for treatment or disposal, the CERCLA Reportable Quantity is 100 lbs. (release of an Unlisted Hazardous Waste with the Characteristic of Ignitability).  
Evaporates.  
Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.
- Accidental Release Measures : Wear self-contained breathing apparatus (SCBA).

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. Lines and equipment should be pre-tested with nitrogen using soapy water to detect leaks.  
Handle in accordance with good industrial hygiene and safety practice.
- Handling (Physical Aspects) : Vapours are heavier than air and may spread along floors. Vapours may form flammable mixture with air. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. No sparking tools should be used. Take measures to prevent the build up of electrostatic charge. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke.
- Dust explosion class : Not applicable
- Storage : Keep container tightly closed in a dry and well-ventilated place. Store in original container.  
No materials to be especially mentioned.  
The product has an indefinite shelf life when stored properly.
- Storage period : > 10 yr

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Storage temperature : &lt; 52 °C (&lt; 126 °F)

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering controls : Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical equipment rated Class I, Group D in Division 1 locations. In Division 2 locations, all spark-producing electrical equipment must be explosion-proof and rated Class I, Group D. Non-sparking motors need not be explosion-proof. Ground all equipment and cylinders before use.

Personal protective equipment  
Respiratory protection : For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Hand protection : Additional protection: Heat insulating gloves, and, Impervious gloves

Eye protection : Wear coverall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.

Skin and body protection : Fire protective clothing (NOMEX) with antistatic control should be worn when handling this product. Wear protective clothing which covers any other exposed areas of the arms, legs, and torso.

Protective measures : When using do not smoke. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

**Exposure Guidelines  
Exposure Limit Values**

Butane (<0.1% butadiene)			
TLV	(ACGIH)	1,000 ppm	STEL

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Propane Permissible exposure limit:	(OSHA)	1,000 ppm	1,800 mg/m <sup>3</sup>	8 hr. TWA
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Isobutane (<0.1% butadiene) TLV	(ACGIH)	1,000 ppm	STEL	
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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	
Physical state	: liquid
Form	: Liquefied gas
Color	: clear, colourless
Odor	: slight, ether-like
Odor threshold	: No applicable data available.
pH	: neutral
Melting point/range	: No applicable data available.
Boiling point/boiling range	: Boiling point -41 - -0.5 °C (-42 - 31.1 °F)
Flash point	: -91 - -41 °C
Evaporation rate	: No applicable data available.
Flammability (solid, gas)	: Flammable gas
Upper explosion limit	: 18.0 vol%
Lower explosion limit	: 1.8 vol%
Vapor pressure	: > 2,432 hPa



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Vapour density	: No applicable data available.
Specific gravity (Relative density)	: 0.49 - 0.67
Water solubility	: No applicable data available.
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: No applicable data available.
Ignition temperature	: 350 - 454 °C
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.
% Volatile	: 100 %

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: The product is chemically stable.
Possibility of hazardous reactions	: Polymerization will not occur.
Conditions to avoid	: Material is stable. Avoid open flames and high temperatures.
Incompatible materials	: Incompatible products Alkali metals, Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition	: Decomposition products are hazardous., This material can be decomposed

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products by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride.

**SECTION 11. TOXICOLOGICAL INFORMATION**

## Dimethyl ether

- |                        |   |  |
|------------------------|---|--|
| Inhalation 4 h LC50    | : | 164000 ppm , Rat<br>Respiratory effects<br>Anaesthetic effects<br>Central nervous system depression<br>narcosis<br>Cardiac irregularities<br>Coma  |
| Inhalation             | : | Dog<br>Cardiac sensitization   |
| Dermal                 | : | Not applicable   |
| Oral                   | : | Not applicable   |
| Skin irritation        | : | No skin irritation, Not tested on animals<br>Not expected to cause skin irritation based on expert review of the properties of the substance.  |
| Eye irritation         | : | No eye irritation, Not tested on animals<br>Not expected to cause eye irritation based on expert review of the properties of the substance.  |
| Skin sensitization     | : | Not tested on animals<br>Not expected to cause sensitization based on expert review of the properties of the substance.<br><br>There are no reports of human skin sensitization.<br><br>There are no reports of human respiratory sensitization. |
| Repeated dose toxicity | : | Inhalation<br>Rat  |

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-  
No toxicologically significant effects were found.

Carcinogenicity : Not classifiable as a human carcinogen.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity : No toxicity to reproduction  
Evidence suggests the substance is not a reproductive toxin in animals.

Teratogenicity : Animal testing showed no developmental toxicity.

Further information : Cardiac sensitisation threshold limit : 376850 mg/m3

Butane (<0.1% butadiene)  
Inhalation 4 h LC50 : 277018 ppm , Rat  
Target Organs: Respiratory Tract, Central nervous system  
Irritating to respiratory system.  
Central nervous system depression  
narcosis

Dermal : Not applicable

Oral : Not applicable

Skin irritation : No skin irritation, Not tested on animals  
Not expected to cause skin irritation based on expert review of the properties of the substance.

Eye irritation : No eye irritation, Not tested on animals  
Not expected to cause eye irritation based on expert review of the properties of the substance.

Skin sensitization : Not tested on animals  
There are no reports of human skin sensitization. Not expected to cause sensitization based on expert review of the properties of the substance.

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Repeated dose toxicity : Inhalation  
multiple species  
-  
No toxicologically significant effects were found.

Mutagenicity : Animal testing did not show any mutagenic effects.

## Propane

Inhalation 4 h LC50 : > 200000 ppm , Rat

Inhalation Low Observed Adverse Effect Concentration (LOAEC) : 100000 ppm , Dog  
Cardiac sensitization

Inhalation No Observed Adverse Effect Concentration : 50000 ppm , Dog  
Cardiac sensitization

Dermal : Not applicable

Oral : Not applicable

Skin irritation : Not applicable

Eye irritation : Not applicable

Skin sensitization : Not applicable

Repeated dose toxicity : Inhalation  
Rat  
-  
gas  
No toxicologically significant effects were found.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.  
Animal testing did not show any mutagenic effects.

Reproductive toxicity : No toxicity to reproduction  
Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed no developmental toxicity.

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Further information	:	Cardiac sensitisation threshold limit : 180369 mg/m3
Isobutane (<0.1% butadiene)	:	
Inhalation 4 h LC50	:	276808 ppm , Rat The toxicological data has been taken from products of similar composition.
Inhalation 4 h LC50	:	> 31 mg/l , Rat
Inhalation Low Observed Adverse Effect Concentration (LOAEC)	:	50000 ppm , Dog Cardiac sensitization
Inhalation No Observed Adverse Effect Concentration	:	25000 ppm , Dog Cardiac sensitization
Dermal	:	Not applicable
Oral	:	Not applicable
Skin irritation	:	No skin irritation, Not tested on animals Not expected to cause skin irritation based on expert review of the properties of the substance.
Eye irritation	:	No eye irritation, Not tested on animals Not expected to cause eye irritation based on expert review of the properties of the substance.
Skin sensitization	:	Not tested on animals Not expected to cause sensitization based on expert review of the properties of the substance.
Repeated dose toxicity	:	Inhalation Rat - No toxicologically significant effects were found.
Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.

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Reproductive toxicity	:	No toxicity to reproduction Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed no developmental toxicity.
Further information	:	Cardiac sensitisation threshold limit : 118.9 mg/m3

**Carcinogenicity**

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

**SECTION 12. ECOLOGICAL INFORMATION****Aquatic Toxicity****Dimethyl ether**

96 h LC50	:	Poecilia reticulata (guppy) > 4,000 mg/l
96 h EC50	:	Pseudokirchneriella subcapitata (green algae) 154.917 mg/l
48 h EC50	:	Daphnia (water flea) > 4,000 mg/l
48 h LC50	:	Daphnia (water flea) 755.549 mg/l
	:	Due to its physical properties, there is no potential for adverse effects.

**Butane (<0.1% butadiene)**

96 h LC50	:	Fish (unspecified species) > 1,000 mg/l
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**Propane**

96 h LC50	:	Fish 24.11 mg/l
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72 h EC50	:	Algae 7.71 mg/l
48 h EC50	:	Daphnia (water flea) 14.22 mg/l
Isobutane (<0.1% butadiene) 96 h LC50	:	Fish 24.11 mg/l
72 h EC50	:	Algae 7.71 mg/l
48 h EC50	:	Daphnia (water flea) 14.22 mg/l

## Environmental Fate

## Dimethyl ether

Biodegradability : Product is not expected to be biodegradable.

## Butane (&lt;0.1% butadiene)

Biodegradability : 100 %  
Readily biodegradable**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste disposal methods - Product : Can be used after re-conditioning. Reclaim by distillation, incinerate, or remove to permitted waste facility. Comply with applicable Federal, State/Provincial and Local Regulations. May be a RCRA Hazardous waste due to the ignitability characteristic.

Contaminated packaging : Empty pressure vessels should be returned to the supplier.

**SECTION 14. TRANSPORT INFORMATION**

DOT UN number : 3161



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IATA_C	Proper shipping name	: Liquefied gas, flammable, n.o.s. (Dimethyl ether, Liquefied Petroleum Gas)
	Class	: 2.1
	Labelling No.	: 2.1
	Reportable Quantity	: 100 lbs Dimethyl ether
	UN number	: 3161
IMDG	Proper shipping name	: Liquefied gas, flammable, n.o.s. (Dimethyl ether, Liquefied Petroleum Gas)
	Class	: 2.1
	Labelling No.	: 2.1
	UN number	: 3161
	Proper shipping name	: LIQUEFIED GAS, FLAMMABLE, N.O.S. (Dimethyl ether, Liquefied Petroleum Gas)
	Class	: 2.1
	Labelling No.	: 2.1

### **SECTION 15. REGULATORY INFORMATION**

SARA 313 Regulated Chemical(s)	: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
PA Right to Know Regulated Chemical(s)	: Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Dimethyl ether, Butane (<0.1% butadiene), Propane, Isobutane (<0.1% butadiene)
NJ Right to Know Regulated Chemical(s)	: Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Dimethyl ether, Butane (<0.1% butadiene), Propane, Isobutane (<0.1% butadiene)
CERCLA Reportable Quantity	: 100 lbs Based on the percentage composition of this chemical in the product.: Dimethyl ether





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**SECTION 16. OTHER INFORMATION**

Chemours™ and the Chemours Logo are trademarks of The Chemours Company. Before use read Chemours safety information. For further information contact the local Chemours office or nominated distributors.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.