



# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/08/2014

Revision date: 07/10/2021

Supersedes: 04/01/2019

Version: 3.0

ULM-9520-S

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixtures  
Product name : PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL  
Product code : ULM-9520-S

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

#### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2	H225
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Acute Tox. 3 (Inhalation:vapour)	H331
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 1	H370

Full text of hazard classes and H-statements : see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11  
T; R23/24/25  
Xi; R36/38

Full text of R-phrases: see section 16

#### GHS-US classification

Flam. Liq. 2	H225
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Acute Tox. 3 (Inhalation:vapour)	H331
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
STOT SE 1	H370

Full text of H statements : see section 16

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Adverse physicochemical, human health and environmental effects

Eyes, Kidney, Liver, Heart, Central nervous system.

## 2.2. Label elements

### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapor  
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H370 - Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof electrical, lighting, ventilating equipment  
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.  
P264 - Wash Both hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.

### GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor  
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H370 - Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (Dermal, Inhalation, oral)

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/Bond container and receiving equipment  
P241 - Use explosion-proof electrical, lighting, ventilating equipment  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P260 - Do not breathe fume, mist, vapors, spray.  
P261 - Avoid breathing dust, fume, mist, gas, spray, vapors.  
P264 - Wash Both hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear eye protection, face protection, protective gloves, protective clothing.  
P301+P310 - If swallowed: Immediately call a poison center or doctor  
P302+P352 - If on skin: Wash with plenty of water  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep 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  
P311 - Call a poison center or doctor  
P312 - Call a poison center or doctor if you feel unwell  
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P330 - Rinse mouth.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P361 - Take off immediately all contaminated clothing.  
P362 - Take off contaminated clothing and wash before reuse.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical to extinguish.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container to Comply with applicable regulations

### 2.3. Other hazards

PBT: not relevant – no registration required

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
100% METHANOL UNLABELED	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	99.993679	F; R11 T; R39/23/24/25 Xi; R36/38
PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY	(CAS-No.) 630402-22-1 (EC Index-No.)	0.0063	Xi; R36/37/38

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
100% METHANOL UNLABELED	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	99.993679	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 1, H370
PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY	(CAS-No.) 630402-22-1 (EC Index-No.)	0.0063	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Name	Product identifier	%	GHS-US classification
100% METHANOL UNLABELED	(CAS-No.) 67-56-1	99.993679	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 1, H370
PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY	(CAS-No.) 630402-22-1	0.0063	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of R- and H- phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a POISON CENTER or doctor/physician.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Rinse mouth. Obtain emergency medical attention. Immediately call a poison center or doctor/physician.

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED

## 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: Toxic if inhaled. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: For small fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
------------------------------	--

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

Fire hazard	: Highly flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Reactivity	: Vapors may form flammable mixture with air. Highly flammable liquid and vapor.

#### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray to cool unopened containers.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
------------------	---

##### 6.1.1. For non-emergency personnel

Emergency procedures	: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
----------------------	--

##### 6.1.2. For emergency responders

Protective equipment	: Avoid breathing dust, mist or spray.
----------------------	--

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3. Methods and material for containment and cleaning up

For containment	: Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.
-----------------	--

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling	: No open flames. No smoking. Use only non-sparking tools. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### 7.2. 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 equipment.
Storage conditions	: Store at room temperature away from light and moisture.
Incompatible materials	: Heat sources.

#### 7.3. Specific end use(s)

No additional information available

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	250 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Danger of cutaneous absorption.

100% METHANOL UNLABELED (67-56-1)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	250 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Danger of cutaneous absorption.
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup> Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	325 mg/m <sup>3</sup> Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm Basis: NIOSH Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Potential for dermal absorption.
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup> Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (mg/m <sup>3</sup> )	325 mg/m <sup>3</sup> Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (ppm)	250 ppm Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	1000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	Remark (OSHA)	The value in mg/m <sup>3</sup> is approximate. Skin notation.

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	40 mg/kg bodyweight/day
Acute - systemic effects, inhalation	260 mg/m <sup>3</sup>
Acute - local effects, dermal	260 mg/cm <sup>2</sup>
Long-term - systemic effects, dermal	40 mg/kg bodyweight/day
Long-term - local effects, dermal	260 mg/cm <sup>2</sup>
Long-term - local effects, inhalation	260 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	8 mg/kg body weight
Acute - systemic effects, inhalation	50 mg/m <sup>3</sup>
Acute - systemic effects, oral	8 mg/kg body weight

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
Acute - local effects, inhalation	50 mg/m <sup>3</sup>
Long-term - systemic effects, oral	8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	50 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	8 mg/kg bodyweight/day
Long-term - local effects, inhalation	50 mg/m <sup>3</sup>
PNEC (Water)	
PNEC aqua (freshwater)	154 mg/l
PNEC aqua (marine water)	15.4 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	570.4 mg/kg dwt
PNEC (Soil)	
PNEC soil	23.5 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	100 mg/kg

### 8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.

Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.

Environmental exposure controls : Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid

Appearance : Liquid

Molecular mass : 32.04 g/mol

Color : Colorless

Odor : Pungent

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : -98 °C (-144 °F)

Freezing point : No data available

Boiling point : 64.7 °C (148.5 °F)

Flash point : 9.7 °C (49.5 °F) - closed cup

Auto-ignition temperature : 455 °C (851 °F) at 1,013 hPa (760 mmHg)

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : 130.3 hPa (97.7 mmHg) at 20 °C (68 °F); 169.27 hPa (126.96 mmHg) at 25 °C (77 °F)

Vapor pressure at 50 °C : 546.6 hPa (410 mmHg) at 50 °C (122 °F)

Relative vapor density at 20 °C : 1.11

Relative density : No data available

Specific gravity / density : 0.791 g/ml at 25 °C (77 °F)

Solubility : Water: Completely miscible

Log Pow : -0.77

Log Kow : No data available

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: Non oxidizing material according to EC criteria.
Explosion limits	: 6 - 36 % (V)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Vapors may form flammable mixture with air. Highly flammable liquid and vapor.

### 10.2. Chemical stability

See storage and expiration date on CoA.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Acid anhydrides. Acid chlorides. Oxidizing agent. Alkali Metal Amides. Reducing agents. Acids.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Toxic if inhaled.

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
LD50 oral rat	1187 - 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 inhalation rat (mg/l)	128.2 mg/l/4h ; 87.6 mg/l - 6 h
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	128.200 mg/l/4h
LDLO, oral, human	143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

100% METHANOL UNLABELED (67-56-1)	
LD50 oral rat	1187 - 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 inhalation rat (mg/l)	128.2 mg/l/4h ; 87.6 mg/l - 6 h
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	128.200 mg/l/4h
LDLO, oral, human	143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin corrosion/irritation	: Skin – Rabbit - Result: No skin irritation
Serious eye damage/irritation	: Eyes – Rabbit - Result: No eye irritation
Respiratory or skin sensitization	: Maximisation Test . Guinea pig. Did not cause sensitization. (OECD 406 method)
Germ cell mutagenicity	: AMES test : S. typhimurium. Result: Negative. fibroblast. Result: Negative. Mutation in mammalian somatic cells. Mutagenicity (in vivo mammalian bone-marrow cystogenetic test, chromosomal analysis) - Mouse - Male and female Result: Negative. Mouse - Male and female. Result: Negative
Carcinogenicity	: Not classified
Reproductive toxicity	: Damage to fetus not classifiable. Fertility classification not possible from current data.
Specific target organ toxicity – single exposure	: Causes damage to organs through prolonged or repeated exposure

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Specific target organ toxicity – repeated exposure	: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: 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. Effects due to Ingestion may include: Headache. Dizziness. Drowsiness. metabolic acidosis. Coma. May be fatal if swallowed and enters airways. If swallowed there is a risk of blindness. Effects on humans. stomach.
Symptoms/effects after inhalation	: Toxic if inhaled. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
LC50 fish 1	15400 mg/l mortality LC50 - Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	> 10000 mg/l Daphnia magna (Water flea) - 48 h
EC50 Daphnia 2	22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h
NOEC (acute)	7900 mg/l Oryzias latipes - 200 h

100% METHANOL UNLABELED (67-56-1)	
LC50 fish 1	15400 mg/l mortality LC50 - Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	> 10000 mg/l Daphnia magna (Water flea) - 48 h
EC50 Daphnia 2	22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h
NOEC (acute)	7900 mg/l Oryzias latipes - 200 h

### 12.2. Persistence and degradability

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
Biochemical oxygen demand (BOD)	600 - 1200 mg/g
Chemical oxygen demand (COD)	1420 mg/g
ThOD	1500 mg/g
Biodegradation	72 % - rapidly biodegradable aerobic - Exposure time 5 d

100% METHANOL UNLABELED (67-56-1)	
Biochemical oxygen demand (BOD)	600 - 1200 mg/g
Chemical oxygen demand (COD)	1420 mg/g
ThOD	1500 mg/g
Biodegradation	72 % - rapidly biodegradable aerobic - Exposure time 5 d

### 12.3. Bioaccumulative potential

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
BCF fish 1	5 mg/l Cyprinus carpio (Carp) - 72 d at 20 °C
Bioconcentration factor (BCF REACH)	1
Log Pow	-0.77

100% METHANOL UNLABELED (67-56-1)	
BCF fish 1	5 mg/l Cyprinus carpio (Carp) - 72 d at 20 °C
Bioconcentration factor (BCF REACH)	1
Log Pow	-0.77

### 12.4. Mobility in soil

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
Ecology - soil	Not degradable in the soil.

100% METHANOL UNLABELED (67-56-1)	
Ecology - soil	Not degradable in the soil.



# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 12.5. Results of PBT and vPvB assessment

#### PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

PBT: not relevant – no registration required

#### 100% METHANOL UNLABELED (67-56-1)

PBT: not relevant – no registration required

### 12.6. Other adverse effects

Other adverse effects : Avoid release to the environment.  
Other information : Stability in water: at 19 °C - (83 - 91%) - 72 h. Remarks: Hydrolyses on contact with water. Hydrolyses readily.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.  
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Additional information : Handle empty containers with care because residual vapors are flammable.  
Ecology - waste materials : Hazardous waste due to toxicity.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No.(DOT) : 1230  
DOT NA no. UN1230

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Methanol  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Hazard labels (DOT) : 3 - Flammable liquid  
6.1 - Poison



DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group, I - Proper shipping name appropriate for international and domestic transportation

Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242

### 14.3. Additional information

Other information : No supplementary information available.

### Overland transport

Packing group (ADR) : II  
Class (ADR) : 3 - Flammable liquid  
Hazard identification number (Kemler No.) : 336

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Classification code (ADR) : FT1  
Hazard labels (ADR) : 3 - Flammable liquids  
6.1 - Toxic substances



Orange plates : 

Tunnel restriction code (ADR) : D/E  
Limited quantities (ADR) : 11  
EAC : •2WE  
APP : A(fl)  
Excepted quantities (ADR) : E2

### Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.  
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"  
MFAG-No : 131

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 1 L  
(49 CFR 173.27)  
DOT Quantity Limitations Cargo aircraft only (49 : 60 L  
CFR 175.75)  
Civil Aeronautics Law : Flammable liquids

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

### 14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
100% METHANOL UNLABELED (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>100% METHANOL UNLABELED (67-56-1)</b>	
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
<b>PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY (630402-22-1)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

### 15.2. International regulations

#### CANADA

<b>PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL</b>	
Listed on the Canadian DSL (Domestic Substances List)	
<b>100% METHANOL UNLABELED (67-56-1)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

<b>PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL()</b>	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

<b>100% METHANOL UNLABELED (67-56-1)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

<b>PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY (630402-22-1)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

<b>100% METHANOL UNLABELED (67-56-1)</b>	
<b>State or local regulations</b>	
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances	

<b>PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY (630402-22-1)</b>	
<b>State or local regulations</b>	
U.S. - Pennsylvania - RTK (Right to Know) List	

# PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY 50 UG/ML IN METHANOL

ULM-9520-S

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PERFLUOROPENTANESULFONATE, SODIUM SALT UNLABELED 95% CHEMICAL PURITY (630402-22-1)

U.S. - New Jersey - Right to Know Hazardous Substance List

### SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

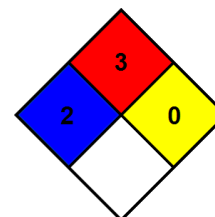
Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H370	Causes damage to organs
R11	Highly flammable
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin
R36/38	Irritating to eyes and skin
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
F	Highly flammable
T	Toxic
Xi	Irritant

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



### Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 3 Serious Hazard

Physical : 0 Minimal Hazard

CIL Mixture SDS

*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*