



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 04/03/2014

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	PX1890
Product name	<i>iso</i> -Propyl Ether [Diisopropyl Ether] GR ACS
CAS-No.	108-20-3

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

Identified uses	Reagent for analysis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Flammable liquid, Category 2, H225  
Specific target organ systemic toxicity - single exposure, Category 3, H336  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### *Hazard pictograms*



*Signal Word*  
Danger

*Hazard Statements*  
H225 Highly flammable liquid and vapor.  
H336 May cause drowsiness or dizziness.

*Precautionary Statements*

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P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P403 + P235 Store in a well-ventilated place. Keep cool.

## OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

## Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Formula	$[(\text{CH}_3)_2\text{CH}]_2\text{O}$	$\text{C}_6\text{H}_{14}\text{O}$ (Hill)
Molar mass	102.18 g/mol	

### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*Diisopropyl ether (>= 90 % - <= 100 % )*

108-20-3

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air. Consult doctor if feeling unwell.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

After eye contact: rinse out with plenty of water.

#### *Ingestion*

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Never give anything by mouth to an unconscious person.

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

irritant effects, Cough, Shortness of breath, Drowsiness, narcosis, agitation, spasms, Nausea, Vomiting, Headache, drowsiness, death

Repeated exposure may cause skin dryness or cracking.

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

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

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### *Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Remove container from danger zone and cool with water.

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## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not let product enter drains. Risk of explosion.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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## **SECTION 7. Handling and storage**

### **Precautions for safe handling**

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

#### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### **Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light.

Store at room temperature.

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>Diisopropyl ether 108-20-3</i>			
ACGIH	Time Weighted Average (TWA):	250 ppm	
	Short Term Exposure Limit (STEL):	310 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	500 ppm	
		2,100 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	500 ppm	
		2,100 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	500 ppm	
		2,100 mg/m <sup>3</sup>	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

### *Eye/face protection*

Safety glasses

### *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.

### *Other protective equipment:*

Flame retardant antistatic protective clothing

### *Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## SECTION 9. Physical and chemical properties

Physical state                      liquid

Color                                      colorless

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Odor	ether-like
Odor Threshold	0.02 - 296.6 ppm
pH	at 68 °F (20 °C) neutral
Melting point	-86 °C
Boiling point/boiling range	153 - 158 °F (67 - 70 °C) at 1,013 hPa
Flash point	-18 °F (-28 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1.0 %(V)
Upper explosion limit	21 %(V)
Vapor pressure	175 hPa at 68 °F (20 °C)
Relative vapor density	3.5
Density	0.72 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	12 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 1.52 (20 °C) (experimental) Bioaccumulation is not expected. (IUCLID)
Autoignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0.3 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none

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Ignition temperature

761 °F (405 °C)  
Method: DIN 51794

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### SECTION 10. Stability and reactivity

#### Reactivity

Vapors may form explosive mixture with air.

#### Chemical stability

Sensitivity to light  
Sensitive to air.

#### *Stabilizer*

butyl hydroxytoluene (BHT)

#### Possibility of hazardous reactions

Exothermic reaction with:

Risk of explosion with:

Aldehydes, Amines, mineral acids, Oxidizing agents, Zinc

#### Conditions to avoid

Warming.

#### Incompatible materials

various plastics

#### Hazardous decomposition products

Peroxides

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### SECTION 11. Toxicological information

#### Information on toxicological effects

##### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

##### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

##### *Acute oral toxicity*

LD50 rat: 5,880 mg/kg (RTECS)

Symptoms: Nausea, Vomiting, Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis., Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

##### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath

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### *Acute dermal toxicity*

LD50 rabbit: > 20,000 mg/kg  
(IUCLID)

### *Skin irritation*

slight irritation  
Repeated exposure may cause skin dryness or cracking.

### *Eye irritation*

rabbit  
Result: No eye irritation  
OECD Test Guideline 405  
slight irritation

### *Specific target organ systemic toxicity - single exposure*

May cause drowsiness or dizziness.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

After absorption of large quantities:  
Headache, narcosis, agitation, spasms, death  
Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **Ecotoxicity**

#### *Toxicity to fish*

LC50 Pimephales promelas (fathead minnow): 92 mg/l; 96 h (Lit.)

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### *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): > 220 mg/l; 48 h

Analytical monitoring: no

OECD Test Guideline 202

EC50 Daphnia magna (Water flea): > 220 mg/l; 48 h

Analytical monitoring: no

OECD Test Guideline 202

EC50 Daphnia magna (Water flea): 190 mg/l; 48 h

OECD Test Guideline 202

### *Toxicity to algae*

NOEC Pseudokirchneriella subcapitata (green algae): > 1,000 mg/l; 96 h

OECD Test Guideline 201

IC50 Pseudokirchneriella subcapitata (green algae): > 100 mg/l; 96 h (External MSDS)

### *Toxicity to bacteria*

EC50 Photobacterium phosphoreum: 500 mg/l; 5 min (Lit.)

## **Persistence and degradability**

### *Biodegradability*

7 %; 5 d

(IUCLID)

Not readily biodegradable.

### *Theoretical oxygen demand (ThOD)*

2,833 mg/g

(Lit.)

## **Bioaccumulative potential**

### *Partition coefficient: n-octanol/water*

log Pow: 1.52 (20 °C)

(experimental)

Bioaccumulation is not expected. (IUCLID)

## **Mobility in soil**

No information available.

## **Other adverse effects**

### *Henry constant*

259.3 Pa·m<sup>3</sup>/mol

Distribution preferentially in air. (Lit.)

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## **SECTION 13. Disposal considerations**

The information presented 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. Disposal should be in accordance with applicable regional, national and local laws and regulations.



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## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 1159
Proper shipping name	DIISOPROPYL ETHER
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1159
Proper shipping name	DIISOPROPYL ETHER
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1159
Proper shipping name	DIISOPROPYL ETHER
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

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## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Flammable Liquid  
Target organ effects

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

Fire Hazard  
Chronic Health Hazard

#### SARA 313

SARA 313: 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.

#### SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

#### *Ingredients*

Diisopropyl ether

### Pennsylvania Right To Know

#### *Ingredients*

Diisopropyl ether

### New Jersey Right To Know

#### *Ingredients*

Diisopropyl ether

### California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapor.

H336 May cause drowsiness or dizziness.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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