



# SAFETY DATA SHEET

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

Date of issue: 10/27/2014

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	PX1815
Product name	<i>n</i> -Propyl Alcohol [1-Propanol]
CAS-No.	71-23-8

### 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  
Acute toxicity, Category 4, Oral, H302  
Serious eye damage, Category 1, H318  
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, 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.  
H302 Harmful if swallowed.

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H318 Causes serious eye damage.  
H336 May cause drowsiness or dizziness.

### *Precautionary Statements*

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin 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 protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 IF INHALED: Remove victim 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.  
P310 Immediately call a POISON CENTER or doctor/ physician.  
P330 Rinse mouth.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
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 an approved waste disposal plant.

### **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Formula	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH	C <sub>3</sub> H <sub>8</sub> O (Hill)
Molar mass	60.1 g/mol	

### **Hazardous ingredients**

*Chemical Name ( Concentration)*

CAS-No.

*1-Propanol ( >= 90 % - <= 100 % )*

71-23-8

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.

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### *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. Call in ophthalmologist.

### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Prevent vomiting if possible. Aspiration hazard Subsequently administer: activated charcoal (20 - 40 g in 10% slurry). Consult a physician.

Never give anything by mouth to an unconscious person.

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

irritant effects, Cough, respiratory paralysis, Shortness of breath, Drowsiness, Unconsciousness, narcosis, inebriation, Headache, drowsiness, Vertigo, Coma  
Risk of serious damage to eyes.

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

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *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 material, 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*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains. Risk of explosion.

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## 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.

## SECTION 7. Handling and storage

### Precautions for safe handling

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.

Store at room temperature.

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>1-Propanol 71-23-8</i>			
ACGIH	Time Weighted Average (TWA):	100 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	200 ppm 500 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	250 ppm 625 mg/m <sup>3</sup>	
	Skin designation:		Can be absorbed through the skin.
OSHA_TRANS	PEL:	200 ppm 500 mg/m <sup>3</sup>	
Z1A	Short Term Exposure Limit (STEL):	250 ppm 625 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	200 ppm 500 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.

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### *Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Work under hood. Do not inhale substance/mixture.

### *Eye/face protection*

Tightly fitting safety goggles

### *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
Odor	alcohol-like
Odor Threshold	No information available.
pH	7 at 200 g/l 68 °F ( 20 °C)
Melting point	-127 °C
Boiling point/boiling range	205.7 - 208 °F ( 96.5 - 98 °C) at 1,013 hPa Method: DIN 53171
Flash point	59 °F ( 15 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2.1 %(V)
Upper explosion limit	19.2 %(V)

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Vapor pressure	19 hPa at 68 °F ( 20 °C)
Relative vapor density	2.1
Density	0.80 g/cm <sup>3</sup> at 68 °F ( 20 °C) Method: DIN 51757
Relative density	No information available.
Water solubility	at 68 °F ( 20 °C) miscible in all proportions
Partition coefficient: n-octanol/water	log Pow: 0.25 (experimental) (IUCOLID) Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	2.3 mPa.s at 68 °F ( 20 °C)
Explosive properties	No information available.
Oxidizing properties	No information available.
Ignition temperature	680 °F ( 360 °C) Method: DIN 51794

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## SECTION 10. Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Exothermic reaction with:

Alkali metals, Hydrogen

Exothermic reaction with:

Alkaline earth metals, alcoholates

Violent reactions possible with:

Strong oxidizing agents

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## Conditions to avoid

Warming.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

## Incompatible materials

rubber, various plastics

## Hazardous decomposition products

no information available

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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

gastrointestinal tract

Central nervous system

#### *Acute oral toxicity*

Rapid absorption.

Symptoms: Headache, Vertigo, inebriation, Unconsciousness, Aspiration may cause pulmonary edema and pneumonitis.

#### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Drowsiness, drowsiness

#### *Skin irritation*

Rabbit

Result: No irritation

OECD Test Guideline 404

#### *Eye irritation*

Rabbit

Result: Severe irritations

OECD Test Guideline 405

Causes serious eye damage.

#### *Sensitization*

Sensitization test: Guinea pig

Result: negative

(IUCLID)

Patch test: human

Result: negative

(IUCLID)

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## *Genotoxicity in vitro*

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471  
(IUCLID)

Mutagenicity (mammal cell test):

Result: negative

Method: OECD Test Guideline 476

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

Method: OECD Test Guideline 473

## *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**

Systemic effects:

narcosis

After uptake of large quantities:

respiratory paralysis, Coma

Further data:

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): 4,630 mg/l; 96 h (IUCLID)



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flow-through test LC50 *Pimephales promelas* (fathead minnow): 4,555 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

*Toxicity to daphnia and other aquatic invertebrates*

static test EC50 *Daphnia magna* (Water flea): 3,644 mg/l; 48 h

DIN 38412

EC50 *Tetrahymen pyriformis*: 4,168 mg/l; 48 h (IUCLID)

*Toxicity to algae*

IC0 *Pseudokirchneriella subcapitata* (green algae): 1,150 mg/l; 48 h (IUCLID)

static test EC50 *Pseudokirchneriella subcapitata* (green algae): 9,170 mg/l; 48 h (ECHA)

*Toxicity to bacteria*

microtox test EC50 *Photobacterium phosphoreum*: 17,700 mg/l; 5 min (IUCLID)

EC50 activated sludge: > 1,000 mg/l; 3 h

OECD Test Guideline 209

static test IC50 activated sludge: > 1,000 mg/l; 3 h

OECD Test Guideline 209

*Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

semi-static test NOEC *Daphnia magna* (Water flea): > 100 mg/l; 21 d

OECD Test Guideline 211

## Persistence and degradability

*Biodegradability*

75 %; 20 d; aerobic

(IUCLID)

Readily biodegradable.

*Chemical Oxygen Demand (COD)*

2,230 mg/g

(IUCLID)

*Theoretical oxygen demand (ThOD)*

2,400 mg/g

(Lit.)

*Ratio BOD/COD*

73 %

(IUCLID)

## Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 0.25

(experimental)

(IUCLID) Bioaccumulation is not expected.

## Mobility in soil

No information available.

*Additional ecological information*

Discharge into the environment must be avoided.

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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 1274
Proper shipping name	N-PROPANOL
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1274
Proper shipping name	N-PROPANOL
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1274
Proper shipping name	N-PROPANOL
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

#### 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

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*

1-Propanol

### Pennsylvania Right To Know

*Ingredients*

1-Propanol

### New Jersey Right To Know

*Ingredients*

1-Propanol

### 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.  
H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
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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