



## SAFETY DATA SHEET

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

Date of issue: 10/17/2014

Version 1.0

### SECTION 1. Identification

#### Product identifier

Product number 516620  
Product name Peroxynitrite

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

Identified uses Biochemical research/analysis  
Use restricted under TSCA to research and development or as analytical reagent. Uses regulated under FDA or FIFRA are not affected.

#### 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)

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### GHS Classification

Skin irritation, Category 2, H315  
Serious eye damage, Category 1, H318  
Germ cell mutagenicity, Category 2, H341  
Carcinogenicity, Category 2, H351

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

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### *Hazard Statements*

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.  
H351 Suspected of causing cancer.

### *Precautionary Statements*

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
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.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
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**

Chemical nature Aqueous solution

### **Hazardous ingredients**

#### *Chemical Name ( Concentration)*

CAS-No.

*sodium hydroxide ( >= 1 % - < 5 % )*

1310-73-2

Exact percentages are being withheld as a trade secret.

*Peroxynitrite ( >= 1 % - < 5 % )*

19059-14-4

Exact percentages are being withheld as a trade secret.

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *General advice*

First aider needs to protect himself.

#### *Inhalation*

After inhalation: fresh air. Call in physician.

#### *Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

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### *Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

### *Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

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

Irritation and corrosion, Cough, Shortness of breath  
Risk of blindness!

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

No information available.

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

### **Extinguishing media**

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

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

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

Not combustible.  
Ambient fire may liberate hazardous vapors.

### **Advice for firefighters**

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

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapors/mists with a water spray jet. 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 let product enter drains.

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

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

## 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.

### Conditions for safe storage, including any incompatibilities

Tightly closed.

Do not store near combustible materials.

Store at  $\leq -70^{\circ}\text{C}$  ( $-94^{\circ}\text{F}$ ).

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>sodium hydroxide 1310-73-2</i>			
ACGIH	Ceiling Limit Value:	2 mg/m <sup>3</sup>	
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	2 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	2 mg/m <sup>3</sup>	
Z1A	Ceiling Limit Value:	2 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

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

#### 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:

protective clothing

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*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	yellow
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.

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Explosive properties	Not classified as explosive.
Oxidizing properties	No information available.
Corrosion	May be corrosive to metals.

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

Sensitivity to light

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

### Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### Conditions to avoid

no information available

### Incompatible materials

Metals

### Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact

#### *Target Organs*

Lungs

Gastro-intestinal system

Respiratory organs

#### *Acute oral toxicity*

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

#### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract

#### *Skin irritation*

Mixture causes burns.

#### *Eye irritation*

Mixture causes serious eye damage. Risk of blindness!

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### *CMR effects*

Carcinogenicity:

Evidence of a carcinogenic effect.

Mutagenicity:

Evidence of genetic defects.

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

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

### *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

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

## Ingredients

### *sodium hydroxide*

#### *Skin irritation*

Rabbit

Result: Causes burns.  
(RTECS)

#### *Eye irritation*

Rabbit

Result: Causes burns.  
(RTECS)

#### *Germ cell mutagenicity*

##### *Genotoxicity in vitro*

Mutagenicity (mammal cell test): micronucleus.

Result: negative  
(Lit.)

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Ames test  
Result: negative  
(IUCLID)

*Peroxynitrite*  
No information available.

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

## Ingredients

### *sodium hydroxide*

#### *Toxicity to fish*

LC50 *Gambusia affinis* (Mosquito fish): 125 mg/l; 96 h (External MSDS)

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

EC50 *Daphnia magna* (Water flea): 76 mg/l; 24 h (External MSDS)

#### *Toxicity to bacteria*

EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min (External MSDS)

### *Biodegradability*

The methods for determining biodegradability are not applicable to inorganic substances.

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

log Pow: -0.467

PBT/vPvB: Not applicable for inorganic substances

### *Peroxynitrite*

No information available.

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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 3098  
Proper shipping name OXIDIZING LIQUID, CORROSIVE, N.O.S. (PEROXYNITRITE)  
Class 5.1 ( 8)  
Packing group II  
Environmentally hazardous --

**Air transport (IATA)**

UN number UN 3098  
Proper shipping name OXIDIZING LIQUID, CORROSIVE, N.O.S. (PEROXYNITRITE)  
Class 5.1 ( 8)  
Packing group II  
Environmentally hazardous --  
Special precautions for user no

**Sea transport (IMDG)**

UN number UN 3098  
Proper shipping name OXIDIZING LIQUID, CORROSIVE, N.O.S. (PEROXYNITRITE)  
Class 5.1 ( 8)  
Packing group II  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-A S-Q

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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

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

#### *Ingredients*

sodium hydroxide

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

#### *Ingredients*

sodium hydroxide

### DEA List I

Not listed

### DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

#### Remarks

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know

#### *Ingredients*

sodium hydroxide

### New Jersey Right To Know

#### *Ingredients*

sodium hydroxide

### 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: Not Listed on TSCA inventory. For Research and Development Use only. Not For Manufacturing or Commercial Purposes.

DSL: This product contains one or several components that are not on the Canadian DSL nor NDSL.

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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.

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.  
H351 Suspected of causing cancer.

### 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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