

# SAFETY DATA SHEET

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

Revision Date 10/13/2015

Version 1.5

## SECTION 1. Identification

### Product identifier

Product number	109944
Product name	Acetic acid for 1000 ml, c(CH <sub>3</sub> COOH) = 0.1 mol/l (0.1 N) Titrisol®

### 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

Skin irritation, Category 2, H315  
Eye irritation, Category 2A, H319

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Warning

*Hazard Statements*  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

*Precautionary Statements*  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/ container to an approved waste disposal plant.

## Other hazards

None known.

## SECTION 3. Composition/information on ingredients

Chemical nature	Aqueous solution
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### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*acetic acid (>= 10 % - < 30 % )*

64-19-7

Exact percentages are being withheld as a trade secret.

## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air.

#### *Skin contact*

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

#### *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). Consult a physician.

Never give anything by mouth to an unconscious person.

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

irritant effects, Cough, bronchitis, Shortness of breath, gastric spasms, Circulatory collapse, shock, Pneumonia

Risk of corneal clouding.

### 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*

Water, 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

Mixture with combustible ingredients.

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

Fire may cause evolution of:

Acetic acid 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 empty into drains.

### 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 and neutralizing material (e.g. Chemizorb® H<sup>+</sup>, Art. No. 101595).

Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>acetic acid 64-19-7</i>			
ACGIH	Time Weighted Average (TWA):	10 ppm	
	Short Term Exposure Limit (STEL):	15 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	10 ppm 25 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	15 ppm 37 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	10 ppm 25 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	10 ppm 25 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

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:

protective clothing

#### Respiratory protection

required when vapors/aerosols are generated.

## SECTION 9. Physical and chemical properties

Physical state

liquid

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Color	colorless
Odor	characteristic
Odor Threshold	No information available.
pH	ca. 2.5 at 20 °C (20 °C)
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	1.01 g/cm <sup>3</sup> at 20 °C (20 °C)
Relative density	No information available.
Water solubility	at 20 °C (20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

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**SECTION 10. Stability and reactivity****Reactivity**

See below

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### Chemical stability

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

### Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapors with:

Metals, Iron, Mild steel, Lead

Possible formation of:

Hydrogen

Violent reactions possible with:

anhydrides, Aldehydes, alkali hydroxides, nonmetallic halides, ethanolamine, Acetaldehyde, Alcohols, halogen-halogen compounds, chlorosulfonic acid, chromosulfuric acid, Potassium hydroxide, Nitric acid, Sodium hydroxide, Strong bases, strong oxidizing agents, Ethyleneimine, fuming sulfuric acid, Isocyanates

### Conditions to avoid

no information available

### Incompatible materials

various 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*

Eyes

Skin

Respiratory system

teeth

#### *Acute oral toxicity*

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

#### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath

#### *Skin irritation*

Mixture causes skin irritation.

#### *Eye irritation*

Risk of corneal clouding.

Mixture causes serious eye irritation.

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

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

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## *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 uptake of large quantities:

Systemic effects:

gastric spasms, shock, bronchitis, acidosis, Circulatory collapse, Pneumonia

Absorption of large quantities may result in damage of the following:

Kidney

Handle in accordance with good industrial hygiene and safety practice.

## **Ingredients**

### *acetic acid*

#### *Acute oral toxicity*

LD50 Rat: 3,310 mg/kg (RTECS)

#### *Acute inhalation toxicity*

LCLO Rat: 39.95 mg/l; 4 h (RTECS)

#### *Skin irritation*

Rabbit

Result: Causes burns.

(IUCLID)

#### *Eye irritation*

Rabbit

Result: Causes burns.

(IUCLID)

#### *Germ cell mutagenicity*

##### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

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Mutagenicity (mammal cell test): chromosome aberration.  
Result: negative  
Method: OECD Test Guideline 473

*Teratogenicity*  
Did not show teratogenic effects in animal experiments. (IUCLID)

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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.

### *Additional ecological information*

Discharge into the environment must be avoided.

## Ingredients

### *acetic acid*

*Toxicity to fish*  
semi-static test LC50 Oncorhynchus mykiss (rainbow trout): > 300.8 mg/l; 96 h  
OECD Test Guideline 203

*Toxicity to daphnia and other aquatic invertebrates*  
EC5 E.sulcatum: 78 mg/l; 72 h neutral (maximum permissible toxic concentration) (Lit.)

EC50 Daphnia magna (Water flea): 47 mg/l; 24 h (Lit.)

*Toxicity to algae*  
IC5 Scenedesmus quadricauda (Green algae): 4,000 mg/l; 16 h (maximum permissible toxic concentration) (Lit.)

*Toxicity to bacteria*  
EC5 Pseudomonas putida: 2,850 mg/l; 16 h neutral (maximum permissible toxic concentration) (Lit.)

microtox test EC50 Photobacterium phosphoreum: 11 mg/l; 15 min (IUCLID)

*Biodegradability*  
99 %; 30 d  
OECD Test Guideline 301D  
(HSDB)  
Readily biodegradable.

95 %; 5 d  
OECD Test Guideline 302B  
Readily eliminated from water

*Biochemical Oxygen Demand (BOD)*  
880 mg/g (5 d)  
(Lit.)



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## *Ratio BOD/ThBOD*

BOD5 76 %  
(IUCLID)

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

log Pow: -0.17 (25 °C)  
(experimental)  
(ECHA) Bioaccumulation is not expected.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

## 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.

## SECTION 14. Transport information

### Land transport (DOT)

UN number UN 2790  
Proper shipping name ACETIC ACID SOLUTION  
Class 8  
Packing group III  
Environmentally hazardous --

### Air transport (IATA)

UN number UN 2790  
Proper shipping name ACETIC ACID SOLUTION  
Class 8  
Packing group III  
Environmentally hazardous --  
Special precautions for user no

### Sea transport (IMDG)

UN number UN 2790  
Proper shipping name ACETIC ACID SOLUTION  
Class 8  
Packing group III  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-A S-B

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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.

#### Clean Water Act

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

##### *Ingredients*

acetic acid

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

##### *Ingredients*

acetic acid

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

### US State Regulations

#### Massachusetts Right To Know

##### *Ingredients*

acetic acid

#### Pennsylvania Right To Know

##### *Ingredients*

acetic acid

#### New Jersey Right To Know

##### *Ingredients*

acetic acid

#### 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.

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## Labeling

*Hazard pictograms*



*Signal Word*

Warning

*Hazard Statements*

H315 Causes skin irritation.

H319 Causes serious eye irritation.

*Precautionary Statements*

Response

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.

P313 Get medical advice/ attention.

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

H315 Causes skin irritation.

H319 Causes serious eye irritation.

## 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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