



Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

PERCHLORIC ACID 0,1 N in ACETIC ACID

PRODUCT CODE : I-9016

CAS No : 7601-90-3 mixture

FORMULA : HClO_4

UN No : 2789

MATERIAL SAFETY DATA SHEET (SDS/MSDS)

PERCHLORIC ACID 0,1 N in ACETIC ACID



MSDS Number : 0255

Date : Aug 28th, 2024

Version : 1.0

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

- 1.1 Product Name** : PERCHLORIC ACID 0,1 N in ACETIC ACID
Synonyms : Perchloric acid solution 0.1 M (0.1 mol/L) in acetic acid for titrations in non-aqueous media
CAS No. : 7601-90-3 mixture
HS Code : 3822 90 90
Chemical Formula : HClO₄
Molecular Weight : 100.46 g/mol
Product Code : I-9016
Brand : Labotiq
1.2 Manufacturer : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com,
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
1.3 Application : Laboratory chemicals, Manufacture of substances, General Chemical reagent

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture**
Classification according to Regulation (EC) No 1272/2008
 Flammable liquid, Category 3, H226
 Corrosive to metals, Category 1, H290
 Skin corrosion, Category 1A, H314

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

- 2.2 Label elements**
Labelling according Regulation (EC) No 1272/2008
Pictogram



Signal word : Danger

Hazard statement(s)

H226 : Flammable liquid and vapour.
 H290 : May be corrosive to metals.
 H314 : Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention
 P210 : Keep away from heat.
 P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection

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Response

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF

IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P308 + P310

IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixture**Hazardous ingredients according to Regulation (EC) No 1272/2008**

Synonyms	: Perchloric acid solution 0.1 N (0.1 mol/L) in acetic acid for titrations in non-aqueous media
Formula	: HClO ₄
Molecular weight	: 100.46 g/mol
CAS-No.	: 7601-90-3 mixture
EC-No. :	200-580-7
Index-No. :	607-002-00-6

Component	Classification	Concentration
Acetic acid (64-19-7)	Flammable liquid, Category 3, H226 Corrosive to metals, Category 1, H290 Skin corrosion, Category 1A, H314	>= 90 % - <= 100 %
Acetic anhydride (108-24-7)	Flammable liquid, Category 3, H226 Acute toxicity, Category 4, H302 Acute toxicity, Category 2, H330 Skin corrosion, Category 1B, H314	>= 0,1 - < 1 %
Perchloric acid CAS-No. 7601-90-3 EC-No. 231-512-4 Index-No. 017-006-00-4	Ox. Liq. 1; Met. Corr. 1; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; STOT RE	>= 0,1 - < 1 %

	2; H271, H290, H302, H314, H318, H373 Concentration limits: ≥ 50 %: Skin Corr. 1A, H314; $10 - < 50$ %: Skin Corr. 1B, H314; $1 - < 10$ %: Skin Irrit. 2, H315; $1 - < 10$ %: Eye Irrit. 2, H319; > 50 %: Ox. Liq. 1, H271; ≤ 50 %: Ox. Liq. 2, H272; $1 - 50$ %: Ox. Liq. 2, H272;	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

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

In case of eye contact

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

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Combustible.

Fire may cause evolution of: Acetic acid vapours, Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures.

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

5.3 Advice for firefighters

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

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5.4 Further information

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

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 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 neutralising material (e.g. Chemizorb® H⁺, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling**

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

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

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

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Ingredients with workplace control parameters

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8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 480 min

Material tested:Butoject®

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use.

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 480 min

Material tested:Butoject® (KCL 898)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: filter E-(P2) The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	liquid
	colorless
Odour	of acetic acid
Odour Threshold	No data available
pH	ca.0,1 at 20 °C
Melting point/freezingpoint	No data available
Initial boiling point and boiling range	No data available
Flash point	40 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available

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Relative density	1,06 g/cm ³ at 20 °C
Water solubility	No data available
Partition coefficient: noctanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	Not classified as explosive.
Oxidizing properties	Oxidizing potential

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Risk of explosion with:

peroxi compounds, fuming sulfuric acid, phosphorus, halides, hydrogen peroxide, chromium(VI) oxide, potassium permanganate, Peroxides, Strong oxidizing agents

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

Iron, Zinc, Magnesium, Mild steel

Possible formation of: Hydrogen

Violent reactions possible with: strong alkalis, anhydrides, Aldehydes, alkali hydroxides, nonmetallic halides, ethanalamine, Acetaldehyde, Alcohols, halogen-halogen compounds, chlorosulfonic acid, chromosulfuric acid, Potassium hydroxide, Nitric acid

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute 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 toxicity estimate Inhalation - 4 h - > 20 mg/l - vapor(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract Dermal: No data available

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Skin corrosion/irritation

Remarks: Mixture causes severe burns.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Biological effects:

Harmful effect due to pH shift.

Caustic even in diluted form.

Discharge into the environment must be avoided.

Endocrine disrupting properties

Product: Assessment :

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2789

IMDG: 2789

IATA: 2789

14.2 UN proper shipping name

ADR/RID: ACETIC ACID SOLUTION

IMDG: ACETIC ACID SOLUTION

IATA: Acetic acid solution

14.3 Transport hazard class(es)

ADR/RID: 8 (3)

IMDG: 8 (3)

IATA: 8 (3)

14.4 Packaging group I

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P5c FLAMMABLE LIQUIDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H226	Flammable liquid and vapor.
H271	May cause fire or explosion; strong oxidizer.
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H302	Harmful if swallowed.

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H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

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