

according to Regulation (EC) No 1907/2006

# Perchloric acid 70-72% for analysis

Revision date: 04.03.2025 Product code: 07139 Page 1 of 12

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

### 1.1. Product identifier

Perchloric acid 70-72% for analysis

UFI: JXRM-G091-X000-67KS

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

#### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

### Uses advised against

Do not use for private purposes (household).

# 1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6
Place: D-47167 Duisburg

Telephone: 0203/5194-0 Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit

**1.4. Emergency telephone** For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

number: Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada:

1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls

accepted)

### **Further Information**

This product is a mixture. REACH Registration Number see section 3.

#### **SECTION 2: Hazards identification**

# 2.1. Classification of the substance or mixture

# Regulation (EC) No 1272/2008

Ox. Liq. 1; H271 Met. Corr. 1; H290 Skin Corr. 1A; H314 Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

# 2.2. Label elements

# Regulation (EC) No 1272/2008

### Hazard components for labelling

perchloric acid

Signal word: Danger

Pictograms:







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#### **Hazard statements**

H271 May cause fire or explosion; strong oxidiser.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

### **Precautionary statements**

P220 Keep/Store away from combustible materials.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

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/doctor.

#### 2.3. Other hazards

No data available

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

### 3.2. Mixtures

#### Chemical characterization

Mixtures in aqueous solution

### Relevant ingredients

CAS No	Chemical name			Quantity	
	EC No				
	Classification (Regulation (EC) No 1272/2008)				
7601-90-3	perchloric acid				
	231-512-4	017-006-00-4			
	Flam. Liq. 3, Ox. Liq. 1, Skin Corr. 1A; H226 H271 H314				

Full text of H and EUH statements: see section 16.

# Specific Conc. Limits, M-factors and ATE

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CAS No	EC No	Chemical name	Quantity	
	Specific Conc. I	Limits, M-factors and ATE		
7601-90-3	231-512-4	perchloric acid	70 - < 75 %	
	oral: LD50 = 200 - 2000 mg/kg Ox. Liq. 1; H271: >= 50 - 100 Ox. Liq. 2; H272: >= 0 - < 50 Skin Corr. 1A; H314: >= 50 - 100 Skin Corr. 1B; H314: >= 10 - < 50 Skin Irrit. 2; H315: >= 1 - < 10 Eye Irrit. 2; H319: >= 1 - < 10			

### **Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

# **SECTION 4: First aid measures**

# 4.1. Description of first aid measures

#### **General information**

Self-protection of the first aider

#### After inhalation

Provide fresh air.

Call a physician immediately.

### After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.



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Call a physician immediately.

### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

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

Consult an ophthalmologist.

### After ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting.

Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

Irritant

corrosive

Cough

Dyspnoea

Cardiac arrhythmias

Risk of serious damage to eyes.

### 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

Co-ordinate fire-fighting measures to the fire surroundings.

# Unsuitable extinguishing media

no restriction

# 5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

Oxidizing

In case of warming: Decomposition with: Danger of explosion

Hazardous combustion products In case of fire may be liberated:

Hydrogen chloride (HCI)

### 5.3. Advice for firefighters

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

#### Additional information

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

# **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

#### General advice

Corrosive to metals.

### For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

**Emergency procedures** 

Consult an expert



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Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders: Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Danger of explosion

### 6.3. Methods and material for containment and cleaning up

### For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

#### Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### **SECTION 7: Handling and storage**

### 7.1. Precautions for safe handling

#### Advice on safe handling

Read label before use.

Handle and open container with care.

Provide adequate ventilation.

Avoid contact with skin, eyes and clothes.

Do not breathe vapour/aerosol.

Use extractor hood (laboratory).

# Advice on protection against fire and explosion

Keep away from combustible material.

### Advice on general occupational hygiene

Take off contaminated clothing.

Wash hands before breaks and after work.

When using do not eat or drink.

### Further information on handling

Take off contaminated clothing and wash it before reuse.

Wash hands before breaks and after work.

Draw up and observe skin protection programme.

# 7.2. Conditions for safe storage, including any incompatibilities

### Requirements for storage rooms and vessels

Keep container tightly closed and dry.

Keep away from combustible material.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints on joint storage

Keep away from combustible material.

national regulations



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# Further information on storage conditions

Unsuitable container/equipment material: Light metal, Metal

Keep cool. Protect from sunlight. storage temperature: +5°C bis +30°C

### 7.3. Specific end use(s)

Laboratory chemicals

# **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

### **DNEL/DMEL values**

CAS No	Substance				
DNEL type		Exposure route	Effect	Value	
7601-90-3	perchloric acid				
Consumer DNEL, long-term		oral	1 -	0,0167 mg/kg bw/day	

### **PNEC values**

CAS No	Substance		
Environmenta	Environmental compartment		
7601-90-3	perchloric acid		
Freshwater		0,021 mg/l	
Freshwater (in	termittent releases)	147 mg/l	
Marine water		0,002 mg/l	
Freshwater sediment		4,67 mg/kg	
Marine sediment		0,467 mg/kg	
Micro-organisms in sewage treatment plants (STP)		8,2 mg/l	
Soil		0,021 mg/kg	

### 8.2. Exposure controls

### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

### Individual protection measures, such as personal protective equipment

# Eye/face protection

Suitable eye protection: goggles.

# **Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 898 Butoject®

Recommended material: Butyl caoutchouc (butyl rubber) 0,7 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 720 Camapren®

Recommended material: CR (polychloroprene, chloroprene rubber) 0,65 mm

Wearing time with occasional contact (splashes): > 450 min



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The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

#### Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Filtering device with filter or ventilator filtering device of type: B

The entrepeneur 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.

#### **Environmental exposure controls**

Do not allow to enter into surface water or drains.

Danger of explosion

# **SECTION 9: Physical and chemical properties**

### 9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: colourless
Odour: odourless

Odour threshold: No data available

Melting point/freezing point:

-18 °C

Boiling point or initial boiling point and

198,7 °C

boiling range:

Flammability: No data available No data available Lower explosion limits: Upper explosion limits: No data available Flash point: No data available Auto-ignition temperature: Decomposition temperature: No data available pH-Value (at 20 °C): acidic <1 Viscosity / kinematic: No data available Water solubility: Soluble in: Water

Solubility in other solvents

not determined

No data available Dissolution rate: Partition coefficient n-octanol/water: No data available Dispersion stability: No data available Vapour pressure: No data available Vapour pressure: No data available 1.68 a/cm<sup>3</sup> Density (at 20 °C): No data available Relative density: Bulk density: No data available No data available Relative vapour density: Particle characteristics: No data available

### 9.2. Other information

### Information with regard to physical hazard classes



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Explosive properties

No data available

Sustaining combustion: No data available

Self-ignition temperature

Solid: not determined Gas: not applicable

Oxidizing properties

The product is: oxidising, Oxidising. Oxidizing liquids, Category 1

Other safety characteristics

Evaporation rate: No data available Solvent separation test: No data available No data available Solvent content: Solid content: No data available Sublimation point: No data available Softening point: No data available No data available Pour point: No data available Viscosity / dynamic: No data available Flow time: No data available

Further Information
Corrosive to metals.

# **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

Explosive

Oxidizing

# 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

# 10.3. Possibility of hazardous reactions

Explosive reaction with:

Hydrogen, Combustible substance

Hydrocarbons, halogenated; Hydrogen halide

Fluorine, Ether

Dimethylsulfoxide (DMSO), Alcohols

Nitriles, Hydrogen chloride (HCI)

Acetic anhydride, Metal

Ethanol, Methanol

Dichloromethane, Phenol

Phosphine, Phosphorus oxides (e.g. P2O5)

Reducing agent, sulphuric acid

iron and steel, coal Nitric acid. Acetic acid

Exothermic reaction with:

Ketone, Alkali (lye)

Ignition hazard: Hydrogen iodide (HI), Aniline (Formaldehyde)

### 10.4. Conditions to avoid

No data available



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### 10.5. Incompatible materials

Rubber articles Metal Light metal Fat

### 10.6. Hazardous decomposition products

In case of fire may be liberated: SECTION 5: Firefighting measures

#### **Further information**

No data available

# **SECTION 11: Toxicological information**

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

### **Acute toxicity**

Based on available data, the classification criteria are not met.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

#### **ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name						
	Exposure route	Dose		Species	Source	Method	
7601-90-3	perchloric acid						
	oral	LD50 2000 mg/kg	200 -	Rat	Study report (2003)	OECD Guideline 423	

### Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

Risk of serious damage to eyes.

# Sensitising effects

Based on available data, the classification criteria are not met.

### Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

### STOT-single exposure

Based on available data, the classification criteria are not met.

### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### **Aspiration hazard**

Based on available data, the classification criteria are not met.

#### Information on likely routes of exposure

There are no data available on the mixture itself.

### Specific effects in experiment on an animal

There are no data available on the mixture itself.



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### Additional information on tests

There are no data available on the mixture itself.

#### **Practical experience**

There are no data available on the mixture itself.

### 11.2. Information on other hazards

### **Endocrine disrupting properties**

There are no data available on the mixture itself.

#### Other information

There are no data available on the mixture itself.

#### **Further information**

Irritant

corrosive

Cough

Dyspnoea

Cardiac arrhythmias

Risk of serious damage to eyes.

# **SECTION 12: Ecological information**

### 12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name							
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method	
7601-90-3	perchloric acid							
	Acute fish toxicity	LC50 mg/l	1470	96 h	Lepomis macrochirus	Publication (2004)	EPA OPPTS 850.1075	
	Acute algae toxicity	ErC50 mg/l	> 435,7	72 h	Pseudokirchneriella subcapitata	Study report (1998)	OECD Guideline 201	
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	Study report (2004)	OECD Guideline 202	
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	0,5 h	Activated sludge	Study report (1997)	ISO 8192	

# 12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

# 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

#### **BCF**

CAS No	Chemical name	BCF	Species	Source
7601-90-3	perchloric acid	> 0,12 - < 0,14	Danio rerio	Chemosphere 65 (2006

# 12.4. Mobility in soil

There are no data available on the mixture itself.

# 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7. Other adverse effects

Avoid release to the environment.

Harmful effect due to pH shift.



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#### **Further information**

Do not allow to enter into surface water or drains.

### **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

#### **Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

5.1

Do not mix with other wastes.

Do not empty into drains.

### Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

# **SECTION 14: Transport information**

### Land transport (ADR/RID)

UN 1873 14.1. UN number or ID number: Perchloric acid 14.2. UN proper shipping name:

14.3. Transport hazard class(es): 5.1 14.4. Packing group: Hazard label: 5.1+8 Classification code: OC<sub>1</sub> **Special Provisions:** 60 Limited quantity: n Excepted quantity: E0 Transport category: Hazard No: 558 Tunnel restriction code: B/E

### Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1873 14.2. UN proper shipping name: Perchloric acid

14.3. Transport hazard class(es): 14.4. Packing group: Hazard label: 5.1+8 Classification code: OC1 60 Special Provisions: Limited quantity: O Excepted quantity: E0

#### Marine transport (IMDG)

UN 1873 14.1. UN number or ID number: 14.2. UN proper shipping name: Perchloric acid

5.1 14.3. Transport hazard class(es): 14.4. Packing group: Hazard label: 5.1+8 **Special Provisions:** 900 Limited quantity: n **Excepted quantity:** E0 EmS:

Segregation group: heavy metals and their salts (including their organometallic compounds)

### Air transport (ICAO-TI/IATA-DGR)



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14.1. UN number or ID number:UN 187314.2. UN proper shipping name:Perchloric acid

14.3. Transport hazard class(es):5.114.4. Packing group:IHazard label:5.1+8Limited quantity Passenger:ForbiddenPassenger LQ:ForbiddenExcepted quantity:E0

IATA-packing instructions - Passenger: Forbidden IATA-max. quantity - Passenger: Forbidden IATA-packing instructions - Cargo: 553
IATA-max. quantity - Cargo: 2.5 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Oxidising substances.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

# **SECTION 15: Regulatory information**

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

### **EU** regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to Directive

2012/18/EU (SEVESO III):

P8 OXIDISING LIQUIDS AND SOLIDS

**National regulatory information** 

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile

work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or

nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

### **SECTION 16: Other information**

#### Changes

This data sheet contains changes from the previous version in section(s): 9.



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#### Abbreviations and acronyms

Ox. Lig: Oxidising liquid

Met. Corr: Substance or mixture corrosive to metals

Flam. Liq: Flammable liquid Skin Corr: Skin corrosion Eye Dam: Eye damage

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Ox. Liq. 1; H271	On basis of test data
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1A; H314	Calculation method
Eye Dam. 1; H318	Calculation method

### Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H//n	Flammable liquid and vabour

H271 May cause fire or explosion; strong oxidiser.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

### **Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)