

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Date of issue: 14/02/2014 Revision date: 20/07/2022 Supersedes version of: 05/03/2018 Version: 2.3

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Substance
Trade name : UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur.
Chemical name : perchloric acid ... %
IUPAC name : perchloric acid
EC Index-No. : 017-006-00-4
EC-No. : 231-512-4
CAS-No. : 7601-90-3
Product code : ACPE-60A

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
T +34 937 07 79 70 - F +34 937 909 532
info@labbox.com - www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number.

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Oxidising Liquids, Category 1 H271

Skin corrosion/irritation, Category 1A H314

Full text of H and EUH statements: see section 16

Specific concentration limits:

(0 ≤C < 50)	Ox. Liq. 2, H272
(1 ≤C < 10)	Eye Irrit. 2, H319
(1 ≤C < 10)	Skin Irrit. 2, H315
(10 ≤C < 50)	Skin Corr. 1B, H314
(50 ≤C < 100)	Ox. Liq. 1, H271
(50 ≤C < 100)	Skin Corr. 1A, H314

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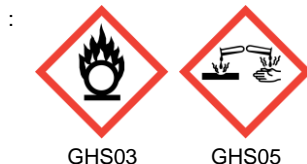
Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS03

GHS05

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H271 - May cause fire or explosion; strong oxidiser.

H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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.

P306+P360 - IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P310 - Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

: Mono-constituent

Name	Product identifier	%
Perchloric acid 60%	CAS-No.: 7601-90-3 EC-No.: 231-512-4 EC Index-No.: 017-006-00-4	≥ 60

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Get medical advice/attention if you feel unwell.

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Call a physician immediately.

First-aid measures after skin contact

: Take off contaminated clothing. . Call a physician immediately.

First-aid measures after eye contact

: Rinse immediately with plenty of water. Get immediate medical advice/attention.

First-aid measures after ingestion

: Go into open air and ventilate suspected area. Rinse mouth. Do not induce vomiting. Give nothing or a little water to drink. Call a physician immediately. Obtain emergency medical attention.

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

No additional information available

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4.3. Indication of any immediate medical attention and special treatment needed

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder.
Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Corrosive vapours.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers.
Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not inhale vapour.

6.1.1. For non-emergency personnel

Emergency procedures : Mechanically ventilate the spillage area. Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from sources of ignition - No smoking.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage area : Store away from heat. Store in a well-ventilated place.
Special rules on packaging : Store in a closed container. Keep only in original container.

7.3. Specific end use(s)

Laboratory chemicals.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur. (7601-90-3)	
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	16,7 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	58 µg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0,0215 mg/l
PNEC aqua (marine water)	0,00215 mg/l
PNEC aqua (intermittent, freshwater)	147 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	4,67 mg/kg dwt
PNEC sediment (marine water)	0,467 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,021 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	8,2 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Do not inhale vapour. Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

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8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Molecular mass	: 100,46 g/mol
Odour	: odourless.
Odour threshold	: Not available
Melting point	: -112 °C
Freezing point	: Not available
Boiling point	: 19 °C Atm. press.: 14,7 hPa
Flammability	: Not available
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: < 1
Viscosity, kinematic	: Not available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 0,71 hPa Temp.: 20 °C
Vapour pressure at 50 °C	: Not available
Density	: 1,768 g/cm ³ Type: 'density' Temp.: 22 °C
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Direct sunlight.

10.5. Incompatible materials

Acids. metals. Combustible materials.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

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LD50 oral rat	200 – 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
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Skin corrosion/irritation : Causes severe skin burns.
pH: < 1
Serious eye damage/irritation : Assumed to cause serious eye damage
pH: < 1
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

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NOAEL (oral, rat, 90 days)	1 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
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Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

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UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur. (7601-90-3)	
EC50 - Daphnia [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 435,7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC chronic fish	10 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '12 wk'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 1873
UN-No. (IMDG) : UN 1873
UN-No. (IATA) : UN 1873
UN-No. (ADN) : UN 1873
UN-No. (RID) : UN 1873

14.2. UN proper shipping name

Proper Shipping Name (ADR) : PERCHLORIC ACID
Proper Shipping Name (IMDG) : PERCHLORIC ACID
Proper Shipping Name (IATA) : Perchloric acid
Proper Shipping Name (ADN) : PERCHLORIC ACID
Proper Shipping Name (RID) : PERCHLORIC ACID
Transport document description (ADR) : UN 1873 PERCHLORIC ACID, 5.1 (8), I, (B/E)
Transport document description (IMDG) : UN 1873 PERCHLORIC ACID, 5.1 (8), I
Transport document description (IATA) : UN 1873 Perchloric acid, 5.1 (8), I
Transport document description (ADN) : UN 1873 PERCHLORIC ACID, 5.1 (8), I
Transport document description (RID) : UN 1873 PERCHLORIC ACID, 5.1 (8), I

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.1 (8)
Danger labels (ADR) : 5.1, 8



IMDG

Transport hazard class(es) (IMDG) : 5.1 (8)
Danger labels (IMDG) : 5.1, 8



IATA

Transport hazard class(es) (IATA) : 5.1 (8)
Danger labels (IATA) : 5.1, 8



ADN

Transport hazard class(es) (ADN) : 5.1 (8)
Danger labels (ADN) : 5.1, 8



RID

Transport hazard class(es) (RID) : 5.1 (8)
Danger labels (RID) : 5.1, 8



14.4. Packing group

Packing group (ADR) : I
Packing group (IMDG) : I
Packing group (IATA) : I
Packing group (ADN) : I
Packing group (RID) : I

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user


Overland transport

Classification code (ADR) : OC1

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Special provisions (ADR)	: 60
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P502
Special packing provisions (ADR)	: PP28
Mixed packing provisions (ADR)	: MP3
Portable tank and bulk container instructions (ADR)	: T10
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: L4DN(+)
Tank special provisions (ADR)	: TU3, TU28
Vehicle for tank carriage	: AT
Transport category (ADR)	: 1
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24
Special provisions for carriage - Operation (ADR)	: S20
Hazard identification number (Kemler No.)	: 558
Orange plates	: 
Tunnel restriction code (ADR)	: B/E
EAC code	: 2P

Transport by sea

Special provisions (IMDG)	: 900
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P502
Special packing provisions (IMDG)	: PP28
Tank instructions (IMDG)	: T10
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: D
Segregation (IMDG)	: SG16
Properties and observations (IMDG)	: Colourless liquid. Mixtures with combustible material may ignite spontaneously and, when involved in a fire, by shock or by friction, may cause an explosion. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes. Transport of PERCHLORIC ACID with more than 72% acid, by mass is prohibited.

Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: 553
CAO max net quantity (IATA)	: 2.5L
ERG code (IATA)	: 5C

Inland waterway transport

Classification code (ADN)	: OC1
Special provisions (ADN)	: 60
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: OC1
Special provisions (RID)	: 60

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Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P502
Special packing provisions (RID)	: PP28
Mixed packing provisions (RID)	: MP3
Portable tank and bulk container instructions (RID)	: T10
Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: L4DN(+)
Special provisions for RID tanks (RID)	: TU3, TU28, TE16
Transport category (RID)	: 1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW24
Hazard identification number (RID)	: 558

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)

Reference code	Applicable on
3.	UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur.
3(a)	UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur.
3(b)	UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur.

REACH Annex XIV (Authorisation List)

UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur. is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur. is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur. is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

UN1873 Perchloric acid 60% AGR, ACS, ISO, Ph.Eur. is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Perchloric acid 60% is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

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15.1.2. National regulations

Germany

- Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 390).
- Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 2. The following requirement must be observed: Basic requirements for the implementation of the submission (according to § 8 paragraph 1, 3 and 4).
- Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

- SZW-lijst van kankerverwekkende stoffen : The substance is not listed
- SZW-lijst van mutagene stoffen : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

- Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
Ox. Liq. 1	Oxidising Liquids, Category 1
Ox. Liq. 2	Oxidising Liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.