Perchloric acid concentrate

32046-1EA

Version 1.11 Revision Date 06.11.2025

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

1.1. Product identifier

Product name	:	Perchloric acid concentrate
SDS-number	:	000000016962
Type of product	:	Mixture
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006. In accordance to the Article 14 (1) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation is not required.

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

Use of the Substance/Mixture	:	Laboratory chemicals Industrial use
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 30926 Seelze Germany	Solstice Advanced Materials US, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:	(49) 5137-999 0	
For further information, please contact:	:	SafetyDataSheet@solstice.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1 303-739-1378 (Medical)
	:	Poison Control Center: United Kingdom: (+44) 844 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Oxidizing liquids Category 1
H271 May cause fire or explosion; strong oxidizer.
Corrosive to metals Category 1
H290 May be corrosive to metals.
Acute toxicity Category 4 - Oral
H302 Harmful if swallowed.
Skin corrosion Category 1A
H314 Causes severe skin burns and eye damage.
Specific target organ toxicity - repeated exposure Category 2 - Oral
H373 May cause damage to organs (Thyroid) through prolonged or repeated exposure.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :



Signal word : Danger

Hazard statements :	H271	May cause fire or explosion; strong oxidizer.
	H290	May be corrosive to metals.
	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H373	May cause damage to organs (Thyroid) through prolonged or repeated exposure.
Precautionary statements :	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P234	Keep only in original container.
	P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P284	Wear respiratory protection.

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep 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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Hazardous components which must be listed on the label : perchloric acid

2.3. Other hazards

Inhaled corrosive substances can lead to a toxic oedema of the lungs. 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. 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.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	CAS-No. Index-No. EC-No.	Classification 1272/2008	Concentration	Remarks
perchloric acid	7601-90-3 017-006-00-4 231-512-4	Ox. Liq. 1; H271 Met. Corr. 1; H290 Acute Tox. 4; H302; Oral Skin Corr. 1A; H314 STOT RE 2; H373; Oral	>= 65 % - <= 72 %	Eye Irrit. 2; H319:1 - < 10 % Skin Corr. 2; H315:1 - < 10 %

				Ox. Liq. 1; H271:> 50 % Ox. Liq. 2; H272:<= 50 % Skin Corr. 1A; H314:>= 50 % Skin Corr. 1B; H314:10 - < 50 %

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.
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 aider needs to protect himself. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.

Inhalation:
If inhaled, remove to fresh air. Call a physician immediately.

Skin contact:
Wash off immediately with plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact:
Protect unharmed eye. Rinse thoroughly with plenty of water, also under the eyelids. Call a physician immediately.

Ingestion:
A person suspected to have swallowed the substance who is conscious should be given water to drink. Take to a doctor immediately together with this card

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

Toxic vapors may be produced upon heating this material.
Heating will cause pressure rise with risk of bursting and subsequent explosion
Some risk may be expected of corrosive and toxic decomposition products.
The product itself does not burn.
Strong oxidizer. Contact with other material may cause fire.
Do not use a solid water stream as it may scatter and spread fire.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas.
In wet solutions watch out for etching influence.Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Unprotected persons must be kept away.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3. Methods and materials for containment and cleaning up

Do not pick up with the help of saw-dust or other combustible substances.
Use chemical neutralising agents

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Dispose of promptly.
Clean contaminated surface thoroughly.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Containers which are opened must be carefully resealed and kept upright to prevent leakage. Exhaust ventilation at the object is necessary. Wear personal protective equipment. Contaminated equipment (brushes, rags) must be cleaned immediately with water. Never return unused material to storage receptacle. Wash parts with an aqueous solution of calcium hydroxide.

Advice on protection against fire and explosion:
The product is not flammable. Keep away from combustible material. Contact with metals liberates hydrogen gas.

Hygiene measures:
Wash hands and face before breaks and immediately after handling the product. Separate rooms are required for washing, showering and changing clothes. Keep working clothes separately. Regular cleaning of equipment, work area and clothing. When using do not eat or drink. When using do not smoke.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Keep only in the original container, tightly closed, in a well ventilated place. Do not leave vessels/containers open Avoid product residues in/on containers. Store in a place accessible by authorized persons only.

Advice on common storage:
Do not store with combustible materials. Keep away from reducing agents. Do not store together with: Metals Amines Alcohols Bases

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
perchloric acid	Consumers / Long-term systemic effects		0,058 mg/m3	Inhalation	
perchloric acid	Consumers / Long-term systemic effects		0,0167 mg/m3	Ingestion	

Component	Environmental compartment / Value	Remarks
perchloric acid	Fresh water: 0,0215 mg/l	Assessment factor: 10
perchloric acid	Marine water: 0,00215 mg/l	Assessment factor: 100
perchloric acid	Sewage treatment plant: 8,2 mg/l	Assessment factor: 100
perchloric acid	Fresh water sediment: 4,67 mg/kg dw	Assessment factor: 100
perchloric acid	Marine sediment: 0,467 mg/kg dw	Assessment factor: 1000
perchloric acid	Soil: 0,021 mg/kg dw	

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Engineering measures
Emergency sprinkling nozzle
Jointless smooth floor
Local exhaust

Personal protective equipment
Respiratory protection:
In the case of vapour formation use a respirator with an approved filter.

Hand protection:
Glove material: Natural Rubber
Break through time: 240 min
Glove thickness: 0,6 mm
Lapren®706
Gloves must be inspected prior to use.
Replace when worn.
Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles
Face-shield

Skin and body protection:
Complete suit protecting against chemicals

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	:	liquid
(b) Colour	:	colourless
(c) Odour	:	odourless
(d) Melting point/freezing point	:	-18 °C
(e) Boiling point/boiling range	:	203 °C
(f) Flammability	:	Not applicable
(g) Lower and upper explosion limit	:	Lower explosion limit Not applicable
	:	Upper explosion limit Not applicable
(h) Flash point	:	Not applicable
(i) Auto-ignition temperature	:	366 °C
(j) Decomposition temperature	:	To avoid thermal decomposition, do not overheat. Thermal sensitivity Explosive decomposition
(k) pH	:	< 1
(l) Viscosity, kinematic	:	No data available
(m) Solubility(ies)	:	Water solubility: completely miscible

		Solubility in other solvents: No data available
(n) Partition coefficient: n-octanol/water	:	No data available
(o) Vapour pressure	:	No data available
(p) Density and / or relative density	:	1,66 g/cm3 at 20 °C
	:	No data available
(q) Bulk density	:	Not applicable
(q) Relative vapour density	:	No data available
(r) Particle characteristics	:	No data available

9.2 Other Information

Polymer characteristics	:	No data available
Oxidizing properties	:	The substance or mixture is classified as oxidizing with the category 1.
Corrosive to metals	:	Corrosive to metals
Evaporation rate	:	No data available
Viscosity, dynamic	:	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored normally.

10.2. Chemical stability

To avoid thermal decomposition, do not overheat.
Thermal sensitivity
Explosive decomposition

10.3. Possibility of hazardous reactions

Heating above the decomposition temperature
Decomposes on heating.
Gives off hydrogen by reaction with metals.

10.4. Conditions to avoid

Protect from heat/overheating.
Keep away from reducing agents.
Keep away from combustible material.
Protect from contamination.

10.5. Incompatible materials

Reactions with various metals.
Reactions with combustible substances.
Reactions with organic substances.
Gives off hydrogen by reaction with metals.
Bases
Rust
Dirt

10.6. Hazardous decomposition products

Risk of formation of toxic pyrolysis products.
Chlorine compounds

SECTION 11: Toxicological information

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

(a) Acute toxicity

Acute oral toxicity:
LD50

Species: Rat
Value: 200 - 2.000 mg/kg
Method: OECD 423

Acute dermal toxicity:
No data available

Acute inhalation toxicity:
No data available

Acute toxicity (other routes of administration):
No data available

(b) Skin corrosion/irritation:
Classification based on Annex VI of regulation 1272/2008/EC.

(c) Serious eye damage/eye irritation:
Classification based on Annex VI of regulation 1272/2008/EC.

(d) Respiratory or skin sensitisation:
No data available

(e) Germ cell mutagenicity:
Note: No data available

(f) Carcinogenicity:
Species: not specified
Note: No data available

(g) Reproductive toxicity:
Species: not specified
Remarks: No data available

(h) STOT-single exposure:
Remarks: No data available

(i) STOT - repeated exposure:
No data available
STOT - repeated exposure:
Remarks: May cause damage to organs through prolonged or repeated exposure.

(j) Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
Not classified due to data which are conclusive although insufficient for classification.

Toxicity to aquatic plants:
Not classified due to data which are conclusive although insufficient for classification.

Toxicity to aquatic invertebrates:
Not classified due to data which are conclusive although insufficient for classification.

Chronic toxicity to aquatic invertebrates:
Not classified due to data which are conclusive although insufficient for classification.

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

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

The methods for determining biodegradability are not applicable to inorganic substances.
We have no quantitative data concerning the ecological effects of this product.
Neutralisation will reduce ecotoxic effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006
For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number or ID number
ADR/RID:1873 IMDG:1873 IATA:1873

14.2 UN proper shipping name
ADR/RID:PERCHLORIC ACID
IMDG:PERCHLORIC ACID
IATA:Perchloric acid

14.3 Transport hazard class(es)
ADR/RID:5.1 (8) IMDG: 5.1 (8) IATA: 5.1 (8)

14.4 Packaging group
ADR/RID:I IMDG: I IATA: I

14.5 Environmental hazards
ADR/RID:no Marine pollutant: no

14.6 Special precautions for user
IMDG Code segregation group (SGG1) – ACIDS,

14.7 Maritime transport in bulk according to IMO instruments
No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).

Other inventory information

USA. List of Active Substances on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory, as amended
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Domestic Substances List (DSL), as amended
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

perchloric acid	:	H271	May cause fire or explosion; strong oxidizer.
		H290	May be corrosive to metals.
		H302	Harmful if swallowed.
		H314	Causes severe skin burns and eye damage.
		H373	May cause damage to organs (Thyroid) through prolonged or repeated exposure.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

Perchloric acid concentrate

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