

PERCHLORIC ACID 20%

MATERIAL SAFETY DATA SHEET SDS/MSDS

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

1.1 Product identifiers

Product name : Perchloric Acid 20%

Product Code : 874680

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Central Drug House (P) Ltd
7/28 Vardaan House
Ansari Road Daryaganj
New Delhi -110002
INDIA

Telephone : +91 11 49404040

Email : care@cdhfinechemical.com

1.4 Emergency telephone number

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Oxidizing liquids (Category 1), H271

Corrosive to metals (Category 1), H290

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1A), H314

Specific target organ toxicity - repeated exposure (Category 2), Thyroid, H373

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)

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 statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P371 + P380 + P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Supplemental Hazard Statements	none

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.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Synonyms	:	PCA
Formula	:	HClO ₄
Molecular weight	:	100.46 g/mol

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

Component		Classification	Concentration
Perchloric acid			
CAS-No.	7601-90-3	Ox. Liq. 1; Met. Corr. 1; Acute	> 15 - < 25 %
EC-No.	231-512-4	Tox. 4; Skin Corr. 1A; STOT	
Index-No.	017-006-00-4	RE 2; H271, H290, H302, H314, 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;			

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

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor.

In case of skin contact

Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Immediately call a POISON CENTER or doctor.

In case of eye contact

Immediately call a POISON CENTER or doctor. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes.

If swallowed

Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms relating to use: Causes severe skin burns and eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media: Foam, Dry powder, Carbon dioxide, Water spray, Sand.

Unsuitable extinguishing media: Do not use a heavy water stream.

Surrounding fires: Use water spray or fog for cooling exposed containers.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions, hazardous fumes will be present. Thermal decomposition generates: Corrosive vapours.

5.3 Advice for firefighters

Protection against fire: Do not enter fire area without proper protective equipment, including respiratory protection.

Special procedures: Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

5.4 Further information

Use water spray to cool unopened containers.

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

For emergency responders: Equip cleanup crew with proper protection. Ventilate area.

For non-emergency personnel: Evacuate unnecessary personnel.

6.2 Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3 Methods and materials for containment and cleaning up

Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Store away from other materials. Collect spillage.

6.4 Reference to other sections

See section 8. Exposure controls/personal protection

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

Handling: Do not breathe dust, fume, gas, mist, vapours, spray. Wash thoroughly after handling. Wash contaminated clothing before reuse.

Technical protective measures: Provide good ventilation in process area to prevent formation of vapour.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Storage regulation: Comply with applicable regulations.

Storage - away from: Strong bases. Strong acids. Sources of ignition. Direct sunlight.

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineer protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid, clear Colour: colourless
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	1.120 g/cm ³ at 25 °C
n) Water solubility	completely miscible
o) Partition coefficient: n-octanol/water	No data available

p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	Not explosive
t) Oxidizing properties	The substance or mixture is classified as oxidizing with the category 1.

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Amines and alcohols cause exothermic reactions.

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong bases, Strong acids, Amines, Phosphorus halides, Alcohols, Organic materials, Powdered metals, Strong reducing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Chlorine

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - < 2,000 mg/kg
(OECD Test Guideline 423)

Skin corrosion/irritation

Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Corrosive

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Ames test

Salmonella typhimurium

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure. - Thyroid

Aspiration hazard

No data available

Additional Information

RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information**12.1 Toxicity**

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

Do not empty into drains. Neutralisation will not reduce ecotoxic effects.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 1802

IMDG: 1802

IATA: 1802

14.2 UN proper shipping name

ADR/RID: PERCHLORIC ACID

IMDG: PERCHLORIC ACID

IATA: Perchloric acid

Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 8 (5.1)

IMDG: 8 (5.1)

IATA: 8 (5.1)

14.4 Packaging group

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 safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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.

H271	May cause fire or explosion; strong oxidizer.
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.