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 0.1 N Solution (N/10) (in glacial Acetic Acid for non-aqueous titration)

Product Code : B-01959

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 : Bio-Chem Chemicals
5455 NicholsonRoad, Science Market
Ambala Cantt, 133001 - Haryana
+91 82952 41953
info@biofinechemical.com - www.biofinechemical.com

1.4 Emergency telephone number

Emergency Phone # : +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

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 irritation (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 Warning

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)
P210 Keep away from heat.

P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
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.
Supplemental Hazard Statements	none

2.3 Other hazards

The substance does not fulfill the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

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

Component		Classification	Concentration
Acetic acid			
CAS-No.	64-19-7	Skin Corr. 1A; Eye Dam 1; Flam. Liq. 3; Acute Tox 4(inhal); H314, H318, H226, H332	>= 90 - < 100 %
EC-No.	200-580-7		

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
fresh air. Call in physician.

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
Rinse out with plenty of water. Immediately call in ophthalmologist.

If swallowed
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

Irritation and corrosion, bronchitis, Shortness of breath, gastric spasms, Nausea, Circulatory collapse, shock, Vomiting Risk of corneal clouding. Risk of blindness!

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

Combustible. Vapours are heavier than air and may spread along floors. Pay attention to flashback. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire. Fire may cause evolution of: Acetic acid vapours

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.

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. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Keep away from heat and sources of ignition. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment 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. Take up with liquid-absorbent and neutralising material. Dispose of properly. Clean up affected area.

6.4 Reference to other sections
See section 8. Exposure controls/personal protection

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Observe label precautions.

Advice on protection against fire and explosion
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.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
No metal containers.

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.

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

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
Safety glasses with side-shields conforming to EN166 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
Impervious clothing. 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 (EN 143) respirator cartridges as a backup to engineering controls. If the 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
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 Colour: Colourless
b)	Odour	of acetic acid
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	40ºC
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	1.06 g/cm^3 at 20ºC
n)	Water solubility	No data available
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	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Risk of explosion with: peroxi compounds, perchloric acid, 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: Metals, Iron, Zinc, magnesium, Mild steel.
Possible formation of: Hydrogen.
Violent reactions possible with: strong alkalis, anhydrides, Aldehydes, alkali hydroxides, nonmetallic halides, ethanolamine, Acetaldehyde, Alcohols, halogen-halogen compounds, chlorosulfonic acid, chromosulfuric acid, Potassium hydroxide, Nitric acid.

10.4 Conditions to avoid
Heating.

10.5 Incompatible materials
various metals

10.6 Hazardous decomposition products
Hazardous decomposition products: Fumes, Carbon monoxide, Carbon dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach, Nausea, Vomiting, Pulmonary failure possible after aspiration of vomit.

Acute inhalation toxicity
Symptoms: Pneumonia, bronchitis, Inhalation may lead to the formation of oedemas in the respiratory tract, mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Acute dermal toxicity
No data available

Skin corrosion/irritation
Mixture causes severe burns.

Serious eye damage/eye irritation
Causes serious eye irritation. Risk of blindness!

Respiratory or skin sensitisation
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

Additional Information
No data available

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
The substance does not fulfill the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

12.6 Other adverse effects
Additional ecological information
Harmful effect due to pH shift. Caustic even in diluted form. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.

Contaminated packaging
Dispose of as unused product.

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, GLACIAL
IMDG: ACETIC ACID, GLACIAL
IATA: Acetic Acid, Glacial

14.3 Transport hazard class(es)
ADR/RID: - 8(3) IMDG: - 8(3) IATA: - 8(3)

14.4 Packaging group
ADR/RID: - II IMDG: - II IATA: - II

14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: Yes 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
A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

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

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