



# NATIONAL PEROXIDE LIMITED, KALYAN

## MATERIAL SAFETY DATA SHEET for PERACETIC ACID (5%w/w)

### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

#### 1.1. Identification of the substance/preparation

Product name : PERACETIC ACID (5% w/w).  
Chemical Name : Peracetic Acid - 5 %w/w  
Synonyms : Peracetic acid, Peroxyethanoic acid, PAA  
Molecular formula : CH<sub>3</sub>-COOOH  
Molecular Weight : 76.05 g/mol

#### 1.2. Use of the Substance/Preparation

Recommended Use : Cleaning agent  
: Oxidising Agent

#### 1.3. Company/Undertaking Identification

Address : National Peroxide Limited,  
NRC Road, Village Vadavali,  
P.O. Mohone, Kalyan – 421102,  
Thane Dist., Maharashtra State, India.  
Telephone : 091 251 2270094, 2271375, 2270672  
Telefax : 091 251 2270671.

#### 1.4. Emergency telephone number

Telephone : 091 251 3255648 (Emergency 24 Hour)

### 2. HAZARDS IDENTIFICATION

Appearance : Liquid  
Colour : Colorless  
Odour : Pungent

**Main effects**

- Oxidising
- Contact with combustible material may cause fire.
- Harmful by inhalation, in contact with skin and if swallowed.
- Causes burns.

#### Inhalation

- Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
- Breathing difficulties
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds, chronic bronchitis.

#### Eye contact

- Severe eye irritation
- Redness
- Lachrymation
- Swelling of tissue
- Risk of serious damage to eyes.
- May cause permanent eye injury.

#### Skin contact

- Severe skin irritation
- Redness
- Swelling of tissue



- Causes burns.

### **Ingestion**

- Paleness and cyanosis of the face.
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- Risk of shock.
- Excessive fluid in the mouth and nose, with risk of suffocation.
- Risk of throat (o)edema and suffocation.
- Bloating of stomach, belching.
- Nausea
- Bloody vomiting
- Cough
- Breathing difficulties
- Risk of chemical pneumonitis and pulmonary (o)edema.

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### **Peracetic acid**

CAS-No. : 79-21-0

**Concentration** : **appr. 5.0 %**

### **Hydrogen peroxide**

CAS-No. : 7722-84-1

**Concentration** : **appr. 20.0 %**

### **Acetic acid**

CAS-No. : 64-19-7

**Concentration** : **appr. 10.0 %**

## **4. FIRST AID MEASURES**

### **4.1. Inhalation**

- In case of accident by inhalation: remove casualty to fresh air and keep at rest.
- Victim to lie down in the recovery position, cover and keep him warm.
- Oxygen or artificial respiration if needed.
- Call a physician immediately.

### **4.2. Eye contact**

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash.
- Consult with an ophthalmologist immediately in all cases.
- Take victim immediately to hospital

### **4.3. Skin contact**

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Wash contaminated clothing before re-use.
- Call a physician immediately.

### **4.4. Ingestion**

- Call a physician immediately.
- Take victim immediately to hospital.

#### ***If victim is conscious:***

- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.

#### ***If victim is unconscious but breathing:***

- Artificial respiration and/or oxygen may be necessary.



## 5. FIRE-FIGHTING MEASURES

### 5.1. Suitable extinguishing media

- Water
- Water spray

### 5.2. Extinguishing media which must not be used for safety reasons

- None.

### 5.3. Special exposure hazards in a fire

- Oxidising
- Oxygen released in thermal decomposition may support combustion
- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.

### 5.4. Hazardous decomposition products

- Oxygen
- The release of other hazardous decomposition products is possible.

### 5.5. Special protective equipment for fire-fighters

- Evacuate personnel to safe areas.
- In the event of fire, wear self-contained breathing apparatus.
- When intervention in close proximity wear acid resistant over suit.
- Clean contaminated surface thoroughly.

### 5.6. Other information

- Keep product and empty container away from heat and sources of ignition.
- Keep containers and surroundings cool with water spray.
- Approach from upwind.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions

- Keep people away from and upwind of spill/leak.
- Refer to protective measures listed in sections 7 and 8.
- Isolate the area.
- Keep away from Incompatible products.
- Prevent further leakage or spillage if safe to do so.
- In case of contact with combustible material, keep material wet with plenty of water.

### 6.2. Environmental precautions

- The product should not be allowed to enter drains, water courses or the soil.
- If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3. Methods for cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Dilute with plenty of water.
- Do not add chemical products.
- Treat recovered material as described in the section "Disposal considerations".
- Never return spills in original containers for re-use.

## 7. HANDLING AND STORAGE

### 7.1. Handling

- Use only in well-ventilated areas.
- Keep away from heat.
- Keep away from Incompatible products.



- May not get in touch with:
- Organic materials
- Use only equipment and materials which are compatible with the product.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by the producer.
- Never return unused material to storage receptacle.
- Use only in an area with adequate water supply
- Containers and equipment used to handle the product should be used exclusively for that product.

## 7.2. Storage

- Keep in a cool, well-ventilated place.
- Keep away from heat.
- Keep away from Incompatible products.
- Keep away from combustible material.
- Store in a receptacle equipped with a vent.
- Store in original container.
- Keep container closed.
- Keep in a banded area.
- Regularly check the condition and temperature of the containers.
- Information about special precautions needed for bulk handling is available on request.

## 7.3. Specific use(s)

- For further information, please contact: Supplier

## 7.4. Packaging material

- Aluminium 99,5 %
- Stainless steel 304L / 316L
- Approved grades of HDPE.

## 7.5. Other information

- Refer to protective measures listed in sections 7 and 8.
- Do not confine the product in a circuit, between closed valves, or in a container without a vent.

# 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

## 8.1. Exposure Limit Values

### Peracetic acid

-WEL (TWA = 1 ppm)

### Hydrogen peroxide

-WEL (TWA = 1 ppm, TWA = 1.4 mg/m<sup>3</sup>)  
 -WEL (STEL = 2 ppm, STEL = 2.8 mg/m<sup>3</sup>)  
 -TLV (NOHSC) (TWA = 1 ppm, TWA = 1.4 mg/m<sup>3</sup>)

### Acetic acid

-WEL (TWA = 10 ppm, TWA = 25 mg/m<sup>3</sup>)  
 -WEL (STEL = 15 ppm, TWA = 38 mg/m<sup>3</sup>)  
 -TLV (NOHSC) (TWA = 10 ppm; TWA = 25 mg/m<sup>3</sup>)

## 8.2. Exposure Controls

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.
- Refer to protective measures listed in sections 7 and 8.

### 8.2.1. Occupational exposure controls

#### 8.2.1.1. Respiratory protection

- In case of emissions, face mask with type NIOSH approved respiratory protection.
- Self-contained breathing apparatus in medium confinement/insufficient oxygen/in case of



large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.

- Use only respiratory protection that conforms to international/ national standards.

#### 8.2.1.2. Hand protection

- Protective gloves - impervious chemical resistant:
- Rubber gloves - Butyl-rubber
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

#### 8.2.1.3. Eye protection

- Chemical resistant goggles must be worn.
- If splashes are likely to occur, wear:
- Tightly fitting safety goggles
- Face-shield

#### 8.2.1.4. Skin and body protection

- Protective suit
- If splashes are likely to occur,
- Wear: Apron, Boots - suitable material : Butyl rubber

#### 8.2.1.5. Hygiene measures

- Use only in an area equipped with a safety shower.
- Eye wash bottle with pure water
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

### 8.2.2. Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General Information (appearance, odour)

Appearance	:	liquid
Colour	:	colorless
Odour	:	pungent

### 9.2. Important Health Safety and Environmental Information

pH	:	< 1.0
Boiling point/range	:	Remarks: not applicable, Thermal decomposition
Flash point	:	Remarks: The product is not flammable.
Flammability	:	Lower explosion limit: Remarks: not applicable.
Explosive properties	:	Explosion danger: Remarks: not applicable
Oxidizing properties	:	Remarks: yes
Relative density / Density	:	1.1
Solubility	:	Water; Remarks: completely miscible
	:	Polar organic solvents; Remarks: soluble
Partition coefficient (in octanol/water)	:	log Pow: -1.25

### 9.3. Other data

Melting point	:	ca -30 °C (-22 °F)
Auto inflammability	:	Remarks: The product is not flammable.



**Decomposition  
Temperature**

:  $\geq 60$  °C

Remarks: Self-Accelerating decomposition temperature (SADT)

## 10. STABILITY AND REACTIVITY

### 10.1. Stability

Potential for exothermic hazard

Stable under recommended storage conditions.

### 10.2. Conditions to avoid

- Contamination
- To avoid thermal decomposition, do not overheat.

### 10.3. Materials to avoid

- Acids, bases, metals, Salts of metals, reducing agents, organic materials, flammable materials

### 10.4. Hazardous decomposition products

- Oxygen,
- The release of other hazardous decomposition products is possible.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Toxicological data

#### *Acute oral toxicity*

- LD50, rat, 330 mg/kg (7 % solution)

#### *Acute inhalation toxicity*

- LC50, 4 h, rat, 4.080 mg/m<sup>3</sup>

#### *Acute dermal toxicity*

- LD50, rabbit, 1.147 mg/kg

#### *Skin irritation*

- Rabbit, Corrosive

#### *Eye irritation*

- Risk of serious damage to eyes. (4 % solution)

#### *Irritation (other route)*

- Inhalation, mouse, Irritating to respiratory system., RD 50 = 22-24 mg/m<sup>3</sup> (Peracetic acid)

#### *Sensitization*

- Guinea pig, Did not cause sensitization on laboratory animals.

#### *Chronic toxicity*

- Oral, Prolonged exposure, no systemic effect
- Dermal. Repeated exposure – irritant effect

#### *Carcinogenicity*

- Animal testing did not show any carcinogenic effects.

#### *Genetic toxicity in vitro*

- In vitro tests have shown mutagenic effects.

#### *Genetic toxicity in vivo*

- Animal testing did not show any mutagenic effects.

#### *Possible hazards (summary)*

- Corrosive effects



## 11.2. Health effects

### *Main effects*

- The product causes burns of eyes, skin and mucous membranes.

### *Inhalation*

- Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds, chronic bronchitis.

### *Eye contact*

- Severe eye irritation
- redness
- lachrymation
- swelling of tissue
- Risk of serious damage to eyes.

### *Skin contact*

- Severe skin irritation
- redness
- swelling of tissue
- Causes burns.

### *Ingestion*

- severe irritation
- Ingestion causes burns of the upper digestive and respiratory tracts.
- nausea
- vomiting
- Bloating of stomach, belching.
- Risk of chemical pneumonitis from product inhalation.

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity effects

#### *Acute toxicity*

- Fishes, *Salmo gairdneri*, LC<sub>50</sub>, 96 h, 13 mg/l
- Fishes, *Salmo gairdneri*, NOEC, 96 h, <10 mg/l
- Crustaceans, EC<sub>50</sub>, 48 h, 3.3 mg/l
- Crustaceans, NOEC, 48 h, 1 mg/l

#### *Chronic toxicity*

- NOEC - No data available
- Algae, various species, EC<sub>50</sub>, growth rate, 72-96 h, 0.7-16 mg/l

### 12.2. Mobility

- Air, Volatility, Henry's law constant (H) = 1 Pa.m<sup>3</sup>/mol  
Conditions: 20 °C Remarks: not significant
- Air, condensation on contact with water droplets  
Remarks: rain washout
- water  
Remarks: The product evaporates slowly.
- Soil/sediments  
Remarks: non-significant evaporation and adsorption.

### 12.3. Persistence and degradability

#### *Abiotic degradation*

- Air  
The product can be degraded by abiotic processes (eg. Chemical or photolytic)
- Water - Hydrolysis, t<sub>1/2</sub> ca 120 hrs  
Result: Chemical degradation.



- Soil - 99% , <0.5 hrs  
Result: Chemical degradation.

**Biodegradation**

- Aerobic – Closed bottle test  
Remarks: non-biodegradable.
- aerobic, from 2 mg/l, > 70%  
Remarks: Readily biodegradable.
- Anaerobic. Remarks: no data available.
- Effects on waste water treatment plants,
- Remarks: BOD increases of treated effluent by acetic acid formation.

**12.4. Bioaccumulative potential**

- Bioaccumulative potential  
Result: Does not bioaccumulate.

**12.5. Other adverse effects**

- no data available

**12.6. Possible hazards (summary)**

- Toxic to aquatic organisms.
- Nevertheless, hazard for the environment is limited due to product properties:  
-abiotic and biotic degradable.  
-Weak persistence to degraded products.
- Does not bioaccumulate.

**13. DISPOSAL CONSIDERATIONS**

**13.1. Waste from residues / unused products**

- In accordance with local and national regulations.
- Limited quantity
- Dilute with plenty of water.
- Flush into sewer with plenty of water.
- Large quantities:
- Contact manufacturer.

**13.2. Packaging treatment**

- Empty containers.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Do not rinse the dedicated containers.
- The empty and clean containers are to be reused in conformity with regulations.

**14. TRANSPORT INFORMATION**

<b>UN-No</b>	<b>3149</b>
<b>IATA-DGR</b>	
Class	5.1
Sub-risks	CORROSIVE
Packing group	II
ICAO-Labels	5.1 + 8
Proper shipping name:	HYDROGEN PEROXIDE AND PERACETIC ACID MIXTURE , STABILISED SOLUTION
<b>IMDG</b>	
Class	5.1
Sub-risks	Corrosive





Packing group	II
IMO-Labels	5.1 + 8
HI/UN No.	3149
Proper shipping name:	HYDROGEN PEROXIDE AND PERACETIC ACID MIXTURE , STABILISED SOLUTION
EMS Number	F – H, S – Q

## 15. REGULATORY INFORMATION

### 15.1. Label

- Hazardous components which must be listed on the label: Peracetic Acid
- Classified as hazardous according to criteria of NOHSC.

Symbol(s)	O C	Oxidising Corrosive
R-phrase(s)	R8 R20/21/22	Contact with combustible material may cause fire. Harmful by inhalation, in contact with skin and if swallowed.
S-phrase(s)	R34 S 1/2 S 3/7 S14  S36/37/39  S45	Causes burns. Keep locked up and out of the reach of children. Keep container tightly closed in a cool place. Keep away from combustible material; Acids; Reducing agents; Salts of metals. Wear suitable protective clothing, gloves and eye/face protection. Protection. In case of accident or if you feel unwell, seek Medical advice immediately (show the label where Possible).

### 15.2. Other information

- The percentage concentration of the solution has to be indicated next to the product name.

### 15.3. Inventory Information

- One or more components not listed on inventory.

## 16. OTHER INFORMATION

### 16.1. Text of phrases mentioned

- WEL                      WORKPLACE EXPOSURE LIMIT.
- TWA                      TIME WEIGHTED AVERAGE FOR 8 HOURS WORKDAYS.
- STEL                      SHORT TERM EXPOSURE LIMIT.
- NOHSC                   NATIONAL OCCUPATIONAL HEALTH AND SAFETY COMMISSION

### 16.2. Revisions

- Rev. No. 00 / 28/06/2010 – First Issue
- Rev. No. 10 / 01/04/2012 – IMS First Issue.

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

