PRODUCT :
SODIUM HYPOCHLORITE SOLUTION

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product:

Product Name: Sodium Hypochlorite solution (3% to 15% active chlorine)
Alternate Name(s): Chlorine Bleach, Soda Bleach

Use of the product/preparation:

Pharmaceutical production, water disinfection, hospital & household disinfectant, laundry bleach, for laboratory analysis

Company/undertaking identification:

Company Name: Phine Kemikals India,
Plot No. 1/2/3/90/P3A, GIDC Estate, Godhra-389002 India
Emergency Phone No: +91-2672-262884, +91-98240 63593
E-mail ID: info@phinekem.in

2. Composition/information on ingredients

Aqueous solution
Chemical Formula: NaClO

Hazardous ingredients:

COMPONENT	CAS NO.	% by weight	EXPOSURE LIMITS, MG/M3			HAZARD
			OSHA PEL	ACGIH TLV	OTHER LIMIT	
SODIUM HYPOCHLORITE	7681-52-9	3-16	NONE	NONE	NONE	CORROSIVE
SODIUM CHLORIDE	7647-14-5	3-17	NONE	NONE	NONE	NONE
SODIUM HYDROXIDE	1310-73-2	0.2-4.0	2MG/M3	2MG/M3	NONE	CORROSIVE
WATER	7732-18-5	BALANCE	NONE	NONE	NONE	NONE

3. Hazards identification

This chemical is considered according to Regulation (EC) No 1272/2008 (CLP)

Classification

Section	Hazard Class	Category	Hazard Class & Category	Hazard Statement
2.16	substance or mixture corrosive to metals	1	Met.Corr. 1	H290
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 1	H410

Supplemental hazard information

Code	Supplemental hazard information
EUH031	Contact with acids will liberate toxic gas

Label elements

Signal word: Danger

Hazard statements:

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effect

Symbols/Pictograms

GHS05 Corrosive | GHS09 Aquatic hazard

Precautionary Statements

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P303+P361 +P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P303+P351 +P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/ doctor.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with national regulation
EUH031	Contact with acids liberates toxic gas.

4. First aid measures

After inhalation: Fresh air. Give artificial respiration if not breathing. Administer Oxygen if breathing is difficult.Call in physician

After skin contact: Wash off with plenty of water. Dab with Polyethylene glycol 400. Immediately, remove contaminated clothing.

After eye contact: Rinse out with plenty of water with the eyelid held wide open.

After swallowing: Do not induce vomiting. If conscious, give water or milk, or milk of magnesia. Do not give baking soda or acid antidotes. Do not give anything by mouth to an unconscious or convulsing person.. Call in physician.

5. Fire-fighting measures

Suitable extinguishing media:
Water spray, Dry chemical, CO_2 or Foam type. Select in adoption to materials stored in the immediate neighborhood

Special risks:
Non-combustible. Ambient fire may liberate hazardous vapours. The following may develop in event of fire: chlorine, hydrochloric acid.

Special protective equipment for fire-fighting:
Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Other information:
Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or ground water. Cool container with spray water from a safe distance.

6. Accidental release measures

Person-related precautionary measures:
Avoid substance contact. Do not inhale vapour/aerosols. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up with liquid-absorbent and neutralizing material like sodium thiosulfate. Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

Store in cool place. May be under pressure. Sensitive to light. Limited shelf life.

Storage:

Tightly closed. Storage Temp: below +25°C.

Protected from light.

May decompose forming gaseous products like oxygen etc, especially when stored over long periods. Close containers in such a way to enable internal pressure to escape (e.g. excess pressure valve or gas venting caps).

Requirements for storage rooms and containers:
No metal containers.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on the concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection:	required when vapours/aerosols are generated.
Eye protection:	required
Hand protection:	In full contact & splash contact: Glove material: nitrile rubber Layer thickness: 0.11 mm

Industrial hygiene:
Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

9. Physical and chemical properties

Form:	liquid	
Colour:	yellow or greenish-yellow	
Odour:	characteristic	
Molecular Weight:	74.45	
pH value at 160 g/l H_2O	(20°C)	12
Viscosity (dynamic)	(25°C)	1.1 centistokes (6% NaOCl) 7.63 centistokes (10% NaOCl) 9.34 centistokes (13% NaOCl)
Melting point		-16 °C
Boiling point		96-99 °C
Ignition temperature		not applicable
Flash point		not applicable
Explosion limits	lower	not applicable

	upper	not applicable
Vapour pressure	(55°C)	7.63 KPa (6% NaOCl) 7.63 KPa (10% NaOCl) 9.34 KPA (13% NaOCl)
Density	(20°C)	1.08 – 1.25 g/cm^3 (depending upon active chlorine content)
Solubility in water	(20°C)	soluble

10. Stability and reactivity

Conditions to be avoided

Warming (decomposition).
Percussion and friction (explosive decomposition).

Substances to be avoided

Risk of explosion with: formic acid, amines, ammonia, acetic acid anhydride, urea, methanol, organic substances, oxalic acid, reducing agents, oxidizing agents.

formation of gas with: cyanides, nitric acid (Release of: chlorine, nitrous gases), hydrochloric acid and acids (Release of: chlorine).

Risk of ignition or formation of inflammable gases or vapors with: arsenic.

Hazardous decomposition products

In the event of fire: See chapter 5.

Further information

Light-sensitive

11. Toxicological information

Acute toxicity

LD50 (oral, rat): 8200 mg/kg (calculated on pure substance) (IUCLID)

Sub-acute to chronic toxicity

Applicable to partial component(s):

Sensitization:
Experience in man: negative. (IUCLID)
Sensitization test (guinea pig): negative. (IUCLID)

Noncarcinogenic in animal experiments. (IUCLID)
Bacterial mutagenicity: Bacillus subtilis: negative. (IUCLID)
No impairment of reproductive performance in animal experiments. (IUCLID)

Further toxicological information

Property that must be anticipated on the basis from the components of the preparation:
After inhalation: Irritations of the mucous membranes, coughing, and dyspnoea.
After skin contact: Burns.
After eye contact: Burns. Risk of blindness
After swallowing: burns in mouth, throat, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach..

Further data

Further hazardous properties cannot be excluded.
The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Biologic degradation:
Methods for the determination of biodegradability are not applicable to inorganic substances.

Ecotoxic effects:
Biological effects:
Forms corrosive mixtures with water even if diluted.
Highly toxic for aquatic organisms. Harmful effect due to pH shift.
Fish toxicity: P.promelas LC50: 1.34 mg/l /96 h (calculated on the pure substance) (IUCLID)
Daphnia toxicity: Daphnia magna EC50: 0.07-0.7 mg/l /24 h (calculated on the pure substance) (IUCLID).
Bacterial toxicity: Photobacterium phosphoreum EC50: 100 mg/l /15 min (calculated on the puresubstance) (Lit.)

Further ecologic data:
Do not allow to enter waters, waste water or soil.

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations.

Packaging

Product packaging must be disposed of in compliance with the respective national regulations or must be passed to a packaging return system, if available.

14. Transport information

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Index number	1791
Proper shipping name	Hypochlorite solution
- Particulars in the shipper's declaration	UN1791, Hypochlorite solution, 8, II, environmentally hazardous
Class	II
Danger label(s)	8, fish and tree
Packing group	II
Environmental hazards	Yes (hazardous to the aquatic environment)
Special provisions (SP)	A7, B2, B15, IB2, IP5, N34, T7, TP2, TP24
ERG No	154

International Maritime Dangerous Goods Code (IMDG)

UN number	1791
Proper shipping name	HYPOCHLORITE SOLUTION
Class	8
Packing group	II
Danger label(s)	8, fish and tree
Marine pollutant	Yes (hazardous to the aquatic environment)
Segregation group	8 - Hypochlorite
Stowage category	8

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1791
Proper shipping name	HYPOCHLORITE SOLUTION
Class	8
Packing group	II
Danger label(s)	8
Special Provisions	A3
Segregation group	8 - Hypochlorite
Stowage category	8

The transport regulations are cited according to international regulations. Possible national deviations in other countries are not considered.

15. Regulatory information

Labeling according to EC Directives:

Symbol	C	Corrosive
R-phrases	31-34	Contact with acids liberates toxic gas. Causes burns.
S-phrases	26-28-36/37/39-45-50	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Do not mix with acids.

Reduced labeling (1999/45/EC,Art.10.4):

Symbol	C	Corrosive
R-phrases	34	Causes burns.
S-phrases	26-36/37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. Other information

Text of any R phrases referred to under heading 2

31 Contact with acids liberates toxic gas.
34 Causes burns.
50 Very toxic to aquatic organisms.

Modification/Alteration/Release information

Release 1	*18/03/2016*	*Original*
Release 2	*01/03/2019*	*Composition Table added in Chapter-2* *Hazard identification modified in Chapter-3* *Transport information modified in Chapter-14* *Address & Email altered*
Release 3	*01/04/2024*	*Address altered* *Hazard identification altered in Chapter-3 as per EU regulation.*

Regional representation:

India: given in Chapter 1 (company identification)

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.