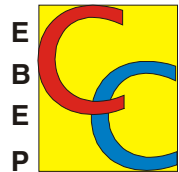
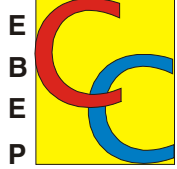


С К О П Ј Е





□

.17-2614/1 28.02.2020 .

□

1. II

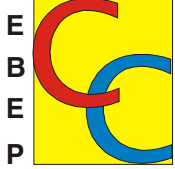
23MW

19,1 MW

HWDRS 2300

NaCl

100 m<sup>3</sup>



D=2600 mm

H=45000 .

2. IV

1mg/l.

25%

25%

8.

pH 6

IV.1-1

№	/ 1	CAS <sup>2</sup>	3	( )	( )	R S <sup>4</sup>
1			3	25	3,000	R10 S15 R18 S16 S17
2		74-82-8	2	/	1,000,000	R3 S15 R18 S16 S17
3	-	1310-73-2	8 -	0	500 kg	R21 S8 R22 S24 R34 S25 R37 S26 S27
4	25%	302-01-2	8 -	0	50 kg	R21 S24 R22 S25 R34 S26 R37 S27
5	-	497-19-8	8 -	0	45 kg	R21 S8 R22 S24 R34 S25 R37 S26 S27
6	- -	7601-54-9	8 -	0	45 kg	R21 S8 R22 S24 R34 S25 R37 S26 ...S27
7.					3300 m <sup>3</sup>	
8.	-				350000 kwh	

1

<sup>2</sup> Chemical Abstracts Service

<sup>3</sup>

<sup>4</sup> . . 12/93)

2



(MSDS) -



## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 56 / Monday, March 26, 2012 / Rules and Regulations

Date of Issue: 07/06/1996 Revision date: 02/21/2016 Supersedes: 10/14/2013 Version: 1.1

#### SECTION 1: Identification

##### 1.1. Identification

Product form	: Substance
Substance name	: Sodium Hydroxide
CAS-No.	: 1310-73-2
Product code	: LC23900
Formula	: NaOH
Synonyms	: anhydrous caustic soda / caustic alkali / caustic flake / caustic soda, solid / caustic white / caustic, flaked / hydrate of soda / hydroxide of soda / LEWIS red devil lye / soda lye / sodium hydrate / sodium hydroxide, pellets

##### 1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Industrial use
Recommended use	: Laboratory chemicals
Restrictions on use	: Not for food, drug or household use

##### 1.3. Supplier

LabChem Inc  
 Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
 Zelenople, PA 16063 - USA  
 T 412-526-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

##### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3867

#### SECTION 2: Hazard(s) identification

##### 2.1. Classification of the substance or mixture

###### GHS-US classification

Skin corrosion/irritation, Category 1A	H314	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life

Full text of H statements : see section 16

##### 2.2. GHS Label elements, including precautionary statements

###### GHS-US labelling

Hazard pictograms (GHS-US)



GHS05

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H314 - Causes severe skin burns and eye damage.  
 H402 - Harmful to aquatic life

Precautionary statements (GHS-US)

: P260 - Do not breathe dust, vapours.  
 P264 - Wash exposed skin thoroughly after handling.  
 P273 - Avoid release to the environment.  
 P280 - Wear eye protection, face protection, protective clothing, protective gloves.  
 P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 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.  
 P310 - Immediately call a POISON CENTER/doctor

## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P303 - Wash contaminated clothing before reuse.  
P405 - Store locked up.  
P501 - Dispose of contents/container to Comply with applicable regulations

#### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Sodium Hydroxide (Main constituent)	(CAS-No.) 1310-73-2	100	Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

**First-aid measures general** : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

**First-aid measures after inhalation** : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

**First-aid measures after skin contact** : Wipe off dry product from skin. Remove clothing before washing. Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

**First-aid measures after eye contact** : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

**First-aid measures after ingestion** : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service. Call Poison Information Centre ([www.big.be/antligif.htm](http://www.big.be/antligif.htm)). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital.

#### 4.2. Most important symptoms and effects (acute and delayed)

**Symptoms/effects after inhalation** : WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Risk of lung oedema.

**Symptoms/effects after skin contact** : Blisters. Caustic burns/corrosion of the skin. Slow-healing wounds.

**Symptoms/effects after eye contact** : Corrosion of the eye tissue. Permanent eye damage.

**Symptoms/effects after ingestion** : Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock.

**Chronic symptoms** : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

#### 4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### 5.2. Specific hazards arising from the chemical

Fire hazard	: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Reactivity	: May be corrosive to metals. Absorbs the atmospheric CO <sub>2</sub> . Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

#### 5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. When cooling/extinguishing: no water in the substance. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Absorb spillage to prevent material damage. Dike and contain spill.
6.1.1. For non-emergency personnel	
Protective equipment	: Gloves. Face-shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen apparatus. Contact with moisture/water: compressed air/oxygen apparatus. Contact with moisture/water: gas-tight suit.
Emergency procedures	: Mark the danger area. Prevent dust cloud formation. Corrosion-proof appliances. Keep containers closed. Avoid ingress of water in the containers. Wash contaminated clothes. On contact with moisture/water: keep upwind. On contact with moisture/water: consider evacuation. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.
6.1.2. For emergency responders	
Protective equipment	: Equip cleanup crew with proper protection. Do not breathe dust.
Emergency procedures	: Stop release.

#### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

#### 6.3. Methods and material for containment and cleaning up

For containment	: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.
Methods for cleaning up	: Collect the spill only if it is in a dry state. Wetted substance: cover with powdered limestone or dry sand, earth, vermiculite. Scoop solid spill into closing containers. Under controlled conditions: neutralize leftovers with dilute acid solution. Possible violent reaction if you neutralize. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Avoid raising dust. Avoid contact of substance with water. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain.
-------------------------------	---

## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately.

#### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible products : combustible materials, metals, Strong acids, Strong oxidizers, Protect from moisture.  
 Incompatible materials : incompatible materials, Moisture, Heat sources.  
 Storage temperature : 20 °C  
 Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.  
 Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials, oxidizing agents, (strong) acids, metals, organic materials, water/moisture.  
 Storage area : Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Store at ambient temperature. Keep only in the original container. Meet the legal requirements.  
 Special rules on packaging : SPECIAL REQUIREMENTS: hermetical, watertight, corrosion-proof, dry, clean, correctly labelled, meet the legal requirements. Secure fragile packagings in solid containers.  
 Packaging materials : SUITABLE MATERIAL: stainless steel, nickel, polyethylene, paper. MATERIAL TO AVOID: lead, aluminium, copper, tin, zinc, bronze, textile.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Sodium Hydroxide (1310-73-2)		
ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
IDLH	US IDLH (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Safety glasses, Protective clothing, Gloves, Dust/aerosol mask with filter type P3.



#### Materials for protective clothing:

GIVE GOOD RESISTANCE: natural rubber, neoprene, nitrile rubber. GIVE LESS RESISTANCE: butyl rubber, polyethylene, PVA. GIVE POOR RESISTANCE: natural fibres

#### Hand protection:

Gloves

#### Eye protection:

Face shield. In case of dust production: protective goggles

#### Skin and body protection:

Corrosion-proof clothing. In case of dust production: head/neck protection

#### Respiratory protection:

Dust production: dust mask with filter type P3.  
 High dust production: self-contained breathing apparatus



## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 56 / Monday, March 26, 2012 / Rules and Regulations

#### SECTION 9: Physical and chemical properties

##### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder. Little spheres. Lumps. Needles. Scales. Flakes.
Colour	: White
Odour	: Odourless
Odour threshold	: No data available
pH	: 14 (5 %)
Melting point	: 323 °C
Freezing point	: No data available
Boiling point	: 1385 °C (1013.25 hPa)
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: < 0.1 hPa (20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: 2.13 (20 °C)
Density	: 2130 kg/m <sup>3</sup>
Molecular mass	: 40 g/mol
Solubility	: Exothermically soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in glycerol. Water: 100 g/100ml (25 °C) Ethanol: soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: 0.53 mm <sup>2</sup> /s (25 °C, 1 mol/l)
Viscosity, dynamic	: 0.997 mPa.s (25 °C, Test data)
Explosive limits	: No data available
Explosive properties	: Not applicable.
Oxidising properties	: None.

##### 9.2. Other information

Minimum ignition energy	: Not applicable
Saturation concentration	: 671 g/m <sup>3</sup>
VOC content	: Not applicable (Inorganic)
Other properties	: Translucent. Hygroscopic. Substance has basic reaction.

#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

May be corrosive to metals. Absorbs the atmospheric CO<sub>2</sub>. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

##### 10.2. Chemical stability

Hygroscopic. Unstable on exposure to air.

##### 10.3. Possibility of hazardous reactions

Reacts violently with acids. Reacts violently with water.

##### 10.4. Conditions to avoid

Moisture. Incompatible materials.

##### 10.5. Incompatible materials

Water. Strong oxidizers. Strong acids. metals. combustible materials.

##### 10.6. Hazardous decomposition products

Sodium oxide.



## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 56 / Monday, March 26, 2012 / Rules and Regulations

#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

Likely routes of exposure	: Skin and eyes contact
Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 14 (5 %)
Serious eye damage/irritation	: Causes serious eye damage. pH: 14 (5 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Causes severe skin burns. Causes serious eye damage.
Symptoms/effects after inhalation	: WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Risk of lung oedema.
Symptoms/effects after skin contact	: Blisters. Caustic burns/corrosion of the skin. Slow-healing wounds.
Symptoms/effects after eye contact	: Corrosion of the eye tissue. Permanent eye damage.
Symptoms/effects after ingestion	: Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

#### SECTION 12: Ecological information

##### 12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Harmful to crustacea. Harmful to fishes. Groundwater pollutant. pH shift.

Sodium Hydroxide (1310-73-2)	
LC50 fish 1	45.4 mg/l (Other, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	40.4 mg/l (Other, 48 h, Ceriodaphnia sp., Experimental value)

##### 12.2. Persistence and degradability

Sodium Hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable (Inorganic)
Chemical oxygen demand (COD)	Not applicable (Inorganic)
ThOD	Not applicable (Inorganic)

##### 12.3. Bioaccumulative potential

Sodium Hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.



## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### 12.4. Mobility in soil

##### Sodium Hydroxide (1310-73-2)

Ecology - soil	No (test) data on mobility of the substance available.
----------------	--

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

**Waste disposal recommendations** : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Should not be landfilled with household waste. Recycle/reuse. Dilute. Neutralize.

**Additional information** : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

##### In accordance with DOT

**Transport document description** : UN1823 Sodium hydroxide, solid, 8, II

**UN-No.(DOT)** : UN1823

**Proper Shipping Name (DOT)** : Sodium hydroxide, solid

**Transport hazard class(es) (DOT)** : 8 - Class 8 - Corrosive material 49 CFR 173.136

**Packing group (DOT)** : II - Medium Danger

**Hazard labels (DOT)** : 8 - Corrosive



**DOT Packaging Non Bulk (49 CFR 173.xxx)** : 212

**DOT Packaging Bulk (49 CFR 173.xxx)** : 240

**DOT Special Provisions (49 CFR 172.102)** : IB6 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).  
 IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.  
 IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.  
 T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2)  
 TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

**DOT Packaging Exceptions (49 CFR 173.xxx)** : 154

**DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)** : 15 kg

**DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)** : 50 kg



## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 52 - Stow "separated from" acids
Other information	: No supplementary information available.

#### SECTION 15: Regulatory information

##### 15.1. US Federal regulations

###### Sodium Hydroxide (1310-73-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
 Not subject to reporting requirements of the United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

##### 15.2. International regulations

###### CANADA

###### Sodium Hydroxide (1310-73-2)

Listed on the Canadian DSL (Domestic Substances List)

###### EU-Regulations

No additional information available

###### National regulations

No additional information available

##### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

#### SECTION 16: Other information

Revision date : 02/21/2018

Full text of H-statements: see section 16:

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H402	Harmful to aquatic life

NFPA health hazard

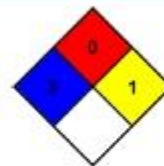
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection

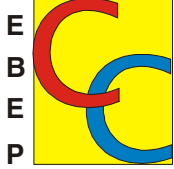
: F  
 F - Safety glasses, Gloves, Synthetic apron, Dust respirator

02/21/2018

EN (English)

5/9

С К О П Ј Е



---

## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

---

SDS US LabChem

*Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.*



**HYDRAZINE HYDRATE  
 CAS NO 7803-57-8**

**MATERIAL SAFETY DATA SHEET  
 SDS/MSDS**

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

**1.1 Product identifiers**

Product name : Hydrazine Hydrate

CAS-No. : 7803-57-8

**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  
 New Delhi -110002  
 INDIA

Telephone : +91 11 49404040  
 Email : [care@cdhfinechemical.com](mailto: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**

- Acute toxicity, Oral (Category 3), H301
- Acute toxicity, Inhalation (Category 2), H330
- Acute toxicity, Dermal (Category 3), H311
- Skin corrosion (Category 1B), H314
- Skin sensitisation (Category 1), H317
- Carcinogenicity (Category 1B), H350
- Acute aquatic toxicity (Category 1), H400
- Chronic aquatic toxicity (Category 1), H410

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)	
H301 + H311	Toxic if swallowed or in contact with skin
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P201	Obtain special instructions before use.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
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.
Supplemental Hazard Statements	none
Restricted to professional users.	

### 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 Substances

Synonyms	: Hydrazinium hydroxide
Formula	: N <sub>2</sub> H <sub>4</sub> · H <sub>2</sub> O
Molecular weight	: 50.06 g/mol
CAS-No.	: 7803-57-8
EC-No.	: 206-114-9
Index-No.	: 007-008-00-3

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

Component	Classification	Concentration
<b>Hydr: zine monohydrate</b>	In cluded in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (E C) No. 1907/2006 (REACH)	
CAS-No.	7803-57-8	Acute Tox. 3; Acute Tox. 2; <= 100 %
EC-No.	206-114-9	Acute Tox. 3; Skin Corr. 1B;
Index-No.	007-008-00-3	Skin Sens. 1; Carc. 1B;
		Aquatic Acute 1; Aquatic Chronic 1; H301, H330, H311, H314, H317, H350, H400, H410
		Concentration limits:
		>= 10 %: Skin Corr. 1B,
		H314; 3 - < 10 %: Skin Irrit. 2,
		H315; 3 - < 10 %: Eye Irrit. 2,
		H319;
		M-Factor - Aquatic Acute: 10 -
		Aquatic Chronic: 10

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

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

###### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

###### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

###### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

##### 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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### 5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

##### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

##### 5.4 Further information

No data available

#### SECTION 6: Accidental release measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

##### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

##### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

##### 6.4 Reference to other sections

For disposal see section 13.



## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

### 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

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### 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.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee 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).

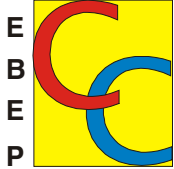
##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 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	10.6 - 10.7 at 10 g/l



e) Melting point/freezing point	Melting point/range: -51,7 °C - lit.
f) Initial boiling point and boiling range	120.1 °C - lit.
g) Flash point	74 °C
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	5 mmHg at 25 °C
l) Vapour density	No data available
m) Relative density	1.032 g/cm <sup>3</sup> at 25 °C
n) Water solubility	completely soluble
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	> 250 °C -
r) Viscosity	No data available
s) Explosive properties	Not explosive
t) Oxidizing properties	No data available

## 9.2 Other safety information

Solubility in other solvents	Ethanol - soluble
------------------------------	-------------------

## 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

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Oxidizing agents, Oxygen, Copper, Organic materials, Zinc

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

In the event of fire: see section 5

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

LD50 Oral - Rat - 108 mg/kg(Hydrazine monohydrate)  
 LC50 Inhalation - Rat - 4 h - 0.75 mg/l(Hydrazine monohydrate)

**Skin corrosion/irritation**

Extremely corrosive and destructive to tissue.(Hydrazine monohydrate)

**Serious eye damage/eye irritation**

No data available(Hydrazine monohydrate)

**Respiratory or skin sensitisation**

May cause sensitisation by skin contact.(Hydrazine monohydrate)

**Germ cell mutagenicity**

Laboratory experiments have shown mutagenic effects.(Hydrazine monohydrate)

**Carcinogenicity**

This product is or contains a component that has been reported to be proba EPA classification.(Hydrazine monohydrate)  
 Possible human carcinogen(Hydrazine monohydrate)

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Hydrazine monohydrate)

**Reproductive toxicity**

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.(Hydrazine monohydrate)

**Specific target organ toxicity - single exposure**

No data available(Hydrazine monohydrate)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available(Hydrazine monohydrate)

**Additional Information**

Repeated dose toxicity - Rat - Oral - No observed adverse effect level - 1.92 mg/kg(Hydrazine monohydrate)

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

CNS stimulation., Cyanosis, Salivation, Seizures., Diarrhoea, Fever, Confusion., Hypoglycemia, Anorexia., Convulsions, Coma.(Hydrazine monohydrate)

Liver - Irregularities - Based on Human Evidence(Hydrazine monohydrate)

**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxicity to fish LC50 - Leuciscus idus melanotus - 0.75 mg/l - 48.0 h(Hydrazine monohydrate)

Toxicity to daphnia and other aquatic invertebrates NOEC - Daphnia magna (Water flea) - 0.01 mg/l - 21 d(Hydrazine monohydrate)

invertebrates

Liver - Irregularities - Based on Human Evidence(Hydrazine monohydrate)

**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxicity to fish	LC50 - <i>Leuciscus idus melanotus</i> - 0.75 mg/l - 48.0 h (Hydrazine monohydrate)
Toxicity to daphnia and other aquatic invertebrates	NOEC - <i>Daphnia magna</i> (Water flea) - 0.01 mg/l - 21 d (Hydrazine monohydrate)

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available (Hydrazine monohydrate)

**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**

Very toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

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: 2030	IMDG: 2030	IATA: 2030
---------------	------------	------------

**14.2 UN proper shipping name**

ADR/RID: HYDRAZINE, AQUEOUS SOLUTION
IMDG: HYDRAZINE, AQUEOUS SOLUTION
IATA: HYDRAZINE, AQUEOUS SOLUTION
Passenger Aircraft: Not permitted for transport

**14.3 Transport hazard class(es)**

ADR/RID: 8 (6.1)	IMDG: 8 (6.1)	IATA: 8 (6.1)
------------------	---------------	---------------

**14.4 Packaging group**

ADR/RID: II	IMDG: II	IATA: II
-------------	----------	----------

**14.5 Environmental hazards**

ADR/RID: no	IMDG Marine pollutant: no	IATA: no
-------------	---------------------------	----------

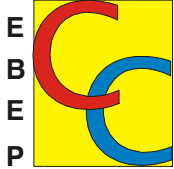
**14.6 Special precautions for user**

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.



#### Authorisations and/or restrictions on use

#### 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.

H301	Toxic if swallowed.
H301 + H311	Toxic if swallowed or in contact with skin
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

##### 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](http://www.cdhfinechemical.com) for additional terms and conditions of sale.



**SECTION 1: Identification**

**1.1. Identification**

Product form	: Substance
Substance name	: Sodium Carbonate, Anhydrous
CAS-No.	: 497-19-8
Product code	: LC22965
Formula	: Na <sub>2</sub> CO <sub>3</sub>

**1.2. Recommended use and restrictions on use**

Use of the substance/mixture	: For laboratory and manufacturing use only.
Recommended use	: Laboratory chemicals
Restrictions on use	: Not for food, drug or household use

**1.3. Supplier**

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zellenoople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

**1.4. Emergency telephone number**

Emergency number	: CHEMTREC: 1-800-424-9300 or +1-703-741-5970
------------------	---

**SECTION 2: Hazard(s) identification**

**2.1. Classification of the substance or mixture**

**GHS-US classification**

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation

Full text of H statements : see section 10

**2.2. GHS Label elements, including precautionary statements**

**GHS-US labeling**

Hazard pictograms (GHS-US)



GHS07

Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H315 - Causes skin irritation  
H319 - Causes serious eye irritation

Precautionary statements (GHS-US)

: P264 - Wash exposed skin thoroughly after handling.  
P280 - Wear eye protection, protective gloves.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P302 - Take off contaminated clothing and wash before reuse.

**2.3. Other hazards which do not result in classification**

Other hazards not contributing to the classification

: None.

**2.4. Unknown acute toxicity (GHS US)**

Not applicable

## Sodium Carbonate, Anhydrous

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### SECTION 3: Composition/Information on ingredients

##### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Sodium Carbonate, Anhydrous (Main constituent)	(CAS-No.) 497-19-8	100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319

Full text of hazard classes and H-statements : see section 16

##### 3.2. Mixtures

Not applicable

#### SECTION 4: First-aid measures

##### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after Inhalation	: Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after Ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

##### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: Coughing.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Vomiting, Nausea.
Chronic symptoms	: Not available.

##### 4.3. Immediate medical attention and special treatment, if necessary

None.

#### SECTION 5: Fire-fighting measures

##### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

##### 5.2. Specific hazards arising from the chemical

Fire hazard	: Non combustible.
Explosion hazard	: Not applicable.
Reactivity	: Reacts with (some) acids.

##### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

#### SECTION 6: Accidental release measures

##### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: None.
<b>6.1.1. For non-emergency personnel</b>	
Emergency procedures	: Evacuate unnecessary personnel.
<b>6.1.2. For emergency responders</b>	
Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

##### 6.2. Environmental precautions

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



## Sodium Carbonate, Anhydrous

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Wash exposed skin thoroughly after handling.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment:

Gloves. Safety glasses.



##### Hand protection:

Wear protective gloves.

##### Eye protection:

Chemical goggles or safety glasses

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

Respiratory protection not required in normal conditions

##### Other information:

Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : White powder or lumps.

Color : white



## Sodium Carbonate, Anhydrous

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Odor	: odorless
Odor threshold	: No data available
pH	: 11.6
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 1600 °C
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 2.53 g/cm <sup>3</sup>
Molecular mass	: 105.99 g/mol
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: None.

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reacts with (some) acids.

#### 10.2. Chemical stability

Not established.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

Sodium Carbonate, Anhydrous (497-19-8)	
LD50 oral rat	4090 mg/kg
ATE US (oral)	4090 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.  
 pH: 11.6

## Sodium Hydroxide

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 56 / Monday, March 26, 2012 / Rules and Regulations

#### SECTION 9: Physical and chemical properties

##### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder. Little spheres. Lumps. Needles. Scales. Flakes.
Colour	: White
Odour	: Odourless
Odour threshold	: No data available
pH	: 14 (5 %)
Melting point	: 323 °C
Freezing point	: No data available
Boiling point	: 1306 °C (1013.25 hPa)
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: < 0.1 hPa (20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: 2.13 (20 °C)
Density	: 2130 kg/m <sup>3</sup>
Molecular mass	: 40 g/mol
Solubility	: Exothermically soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in glycerol. Water: 100 g/100ml (25 °C) Ethanol: soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: 0.53 mm <sup>2</sup> /s (25 °C, 1 mol/l)
Viscosity, dynamic	: 0.997 mPa.s (25 °C, Test data)
Explosive limits	: No data available
Explosive properties	: Not applicable.
Oxidising properties	: None.

##### 9.2. Other information

Minimum ignition energy	: Not applicable
Saturation concentration	: 671 g/m <sup>3</sup>
VOC content	: Not applicable (Inorganic)
Other properties	: Translucent. Hygroscopic. Substance has basic reaction.

#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

May be corrosive to metals. Absorbs the atmospheric CO<sub>2</sub>. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

##### 10.2. Chemical stability

Hygroscopic. Unstable on exposure to air.

##### 10.3. Possibility of hazardous reactions

Reacts violently with acids. Reacts violently with water.

##### 10.4. Conditions to avoid

Moisture. Incompatible materials.

##### 10.5. Incompatible materials

Water. Strong oxidizers. Strong acids. metals. combustible materials.

##### 10.6. Hazardous decomposition products

Sodium oxide.

## Sodium Carbonate, Anhydrous

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### SECTION 15: Regulatory information

##### 15.1. US Federal regulations

###### Sodium Carbonate, Anhydrous (497-19-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

##### 15.2. International regulations

###### CANADA

###### Sodium Carbonate, Anhydrous (497-19-8)

Listed on the Canadian DSL (Domestic Substances List)

###### EU-Regulations

No additional information available

###### National regulations

###### Sodium Carbonate, Anhydrous (497-19-8)

Listed on the Canadian IDL (Ingredient Disclosure List)

##### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

#### SECTION 16: Other information

Revision date : 03/20/2018

Other information : None.

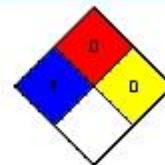
Full text of H-phrases: see section 16:

H315	Causes skin irritation
H319	Causes serious eye irritation

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



###### Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

###### Personal protection

: B  
B - Safety glasses, Gloves

###### SDS US LabChem

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.



## Material Safety Data Sheet (MSDS) - Tri Sodium phosphate

### 1. Chemical Product and Company Identification

**Product Name** : Tri Sodium phosphate  
**Catalog Codes** : SLS2650, SLS4072  
**CAS#** : 7601-54-9  
**RTECS** : TC9490000  
**TSCA** : TSCA 8(b) inventory: Sodium phosphate tribasic  
**CI#** : Not available.  
**Synonym** : Tri sodium Phosphate Anhydrous, Phosphoric Acid, Tri sodium Salt, Tri sodium Orthophosphate  
**Chemical Name** : Sodium Phosphate Tri basic  
**Chemical Formula** : Na<sub>3</sub>PO<sub>4</sub>

### COMPANY IDENTIFICATION

**Supplier:** Pon Pure Chemicals Group  
 CHENNAI, TAMILNADU, INDIA  
**24 Hour Health Emergency** (91) 8939878447  
 (91) 9444038694  
**Transportation Emergency Phone** (91) 8939768680

Company Name	Place	EMERGENCY TELEPHONE NUMBER
Pon Pure Chemicals Group	India	Day Emergency - 044-26161803-26161809

### 2. Composition and Information on Ingredients

#### Composition:

Name	CAS #	% by Weight
Tri Sodium phosphate	7601-54-9	100

**Toxicological Data on Ingredients:** Sodium phosphate tribasic: ORAL (LD50): Acute: 4150 mg/kg [Rat [information from other supplier]]. DERMAL (LD50): Acute: >7940 mg/kg [Rabbit [information from other supplier]]. >300 mg/kg [Rabbit [Registry of Toxic Effects of Chemical Substances database]].

### 3: Hazards Identification

#### Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Corrosive to eyes and skin. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-



intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

**4. First Aid Measures**

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation: Not available.

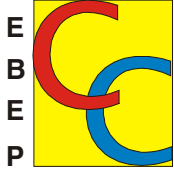
Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

**5. Fire and Explosion Data**

- Flammability of the Product : Non-flammable.
- Auto-Ignition Temperature : Not applicable.
- Flash Points : Not applicable.
- Flammable Limits : Not applicable.
- Products of Combustion : Not available.



Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Containers may explode when heated

**6. Accidental Release Measures**

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

**7: Handling and Storage**

Precautions:

Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

**8. Exposure Controls/Personal Protection**

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Synthetic apron. Gloves (impervious).



Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 15 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Total.

TWA: 5 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Respirable.

TWA: 5 STEL: 5 (mg/m<sup>3</sup>) from AIHA Inhalation Consult local authorities for acceptable exposure limits.

**9. Physical and Chemical Properties**

Physical state and appearance	: Solid.
Odor	: Odorless.
Taste	: Not available.
Molecular Weight	: 163.94 g/mole
Color	: White.
pH (1% soln/water)	: 11.9 [Basic.]
Boiling Point	: Not available.
Melting Point	: 75°C (167°F)
Critical Temperature	: Not available.
Specific Gravity	: 1.62 (Water = 1)
Vapor Pressure	: Not applicable.
Vapor Density	: Not available.
Volatility	: Not available.
Odor Threshold	: Not available.
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.
Dispersion Properties	: See solubility in water.
Solubility	: Easily soluble in hot water, Soluble in cold water.

**10. Stability and Reactivity Data**

Stability	: The product is stable.
Instability Temperature	: Not available.
Conditions of Instability	: Moisture
Incompatibility with various substances	: Reactive with moisture.
Corrosivity	: Non-corrosive in presence of glass.
Special Remarks on Reactivity	: Hygroscopic, Sodium Phosphate Tribasic forms a strong caustic solution similar to soda lye



Special Remarks on Corrosivity : When wet, mild steel and brass may be corroded by sodium phosphate tribasic.  
 Polymerization : Will not occur.

**11. Toxicological Information**

Routes of Entry : Absorbed through skin, Inhalation, Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 4150 mg/kg [Rat [information from other supplier]]. Acute dermal toxicity (LD50): >300 mg/kg [Rabbit [Registry of Toxic Effects of Chemical Substances database]].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:

Extremely hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive). Hazardous in case of skin contact (irritant), of ingestion, Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation with possible burning pain and corrosive damage. It may be absorbed through the skin. Eyes: Causes eye irritation. It causes immediate and severe pain followed by conjunctival edema and corneal clouding. Later cataract formation may occur. This substance may cause eye burns. Inhalation: May be harmful if inhaled. Inhalation of dust may Cause respiratory tract and mucous membrane irritation with coughing, sneezing, choking, difficulty breathing, and pulmonary edema. Ingestion: May be harmful if swallowed. May cause severe gastrointestinal (digestive) tract irritation with severe nausea, vomiting, abdominal discomfort, violent purging, diarrhea, and burning sensation. Ingestion of large amounts may induce hypocalcemia or hyponatremia characterized by tetanus-like spasms, due to the sequestration of calcium ions by the phosphate moiety. It may also cause caustic burns of the mouth oropharynx, esophagus, or gastrointestinal tract.

**12. Ecological Information**

Ecotoxicity:

Ecotoxicity in water (LC50): 220 mg/l 96 hours [Bluegill sunfish]. 120 mg/l 96 hours [Rainbow Trout]. 177 mg/l 50 hours [Daphnia].

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.





Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

**13. Disposal Considerations**

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**14. Transport Information**

DOT Classification : Not a DOT controlled material (United States).

Identification : : Not available. UNNA: 9148 PG: III

Special Provisions for Transport: Not applicable.

**15. Other Regulatory Information**

Federal and State Regulations:

New York release reporting list: Sodium phosphate tribasic Pennsylvania RTK: Sodium phosphate tribasic Minnesota: Sodium phosphate tribasic Massachusetts RTK: Sodium phosphate tribasic New Jersey: Sodium phosphate tribasic California Director's List of Hazardous Substances: Sodium phosphate tribasic TSCA 8(b) inventory: Sodium phosphate tribasic CERCLA: Hazardous substances.: Sodium phosphate tribasic: 5000 lbs. (2268 kg)

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS E: Corrosive solid.

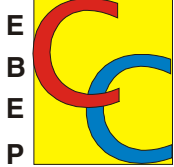
DSCL (EEC):

R35- Causes severe burns. S1/2- Keep locked up and out of the reach of children. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37- Wear suitable protective clothing and gloves. S39- Wear eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard	: 2
Fire Hazard	: 0
Reactivity	: 0
Personal Protection	: C

National Fire Protection Association (U.S.A.):



Health : 2

Flammability : 0

Reactivity : 2

Specific hazard:

Protective Equipment:

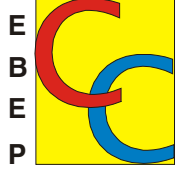
Gloves (Impervious), Synthetic apron, Wear appropriate respirator when ventilation is inadequate, Safety glasses.

#### **16. Other Information**

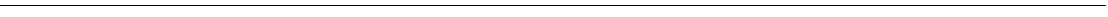
##### **Disclaimer:**

The information and recommendations contained herein are, to the best of **Pon Pure Chemicals Group** knowledge and belief, accurate and reliable as of the date issued. You can contact **Pon Pure Chemicals Group** to ensure that this document is the most current available from **Pon Pure Chemicals Group**. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

С К О П Ј Е



3. V





Друштво за снабдување со пареа и топла вода  
Скопје Север АД  
Бр. 04-01/17  
Скопје, 14.05.2020 год.

## ДОГОВОР

Склучен на ден 14.05.2020 година

Друштво за производство, промет и услуги  
ЕКО-ЦИРКОН ДОО Експорт-Импорт  
Бр. 0507-04/340  
18.05/2020 год.  
СКОПЈЕ

1. Еко Циркон Доо Скопје со седиште на ул 840 бр.16 Маџари Скопје едб-4030998354936 претставувано согласно актите на Друштвото од страна на Управителот Златко Ангелески (во понатамошниот текст на овој Договор —(Купувач)
2. Друштво за снабдување со пареа и топла вода Скопје Север АД-Скопје ЕДБС 5246067, претставувано од Моника Тимосиевска, дипломиран машински инженер, во понатамошниот текст (Продавач)

### ПРЕДМЕТ НА ДОГОВОР

#### Член 1

Предмет на овој договор е регулирање на меѓусебните права и обврски во врска со продажбата на отпаден материјал- отпадно железо, алуминиум, бакар, месинг, олово, цинк, електронски и електричен отпад, отпадна пластика и други отпадни материјали.

#### Член 2

Мерењето на количеството на отпадниот материјал од член 1 ќе се врши во седиштето на Купувачот на вага што ја поседува Купувачот, во присуство на овластено лице од продавачот. Купувачот има право да одбие —изврши прием на материјалот, доколку постои сомневање дека истото не одговара на потребниот квалитет односно својство (мешавина со други материјали кои ја намалуваат вредноста).

### ЦЕНА И НАЧИН НА ПЛАЌАЊЕ

#### Член 3

Договорените страни ја договараат цената на продажба на отпадниот материјал со взаемна согласност во зависност од моменталната берзанска пазарна цена.  
(Во цената не е вклучено ДДВ, бидејќи цврстиот отпад не подлежи на ДДВ од 18% под член 32А од законот за ДДВ.(Службен весник бр.12).

#### Член 4

Плаќањето за продадениот отпаден материјал, купувачот треба да го изврши на сметка на СУТКОЗ Скопје СО при Групација Топлификација 300000003593595 при Комерцијална банка АД, согласно одлуката на управен одбор на продавачот број 02- 39/2 од 23.03.2017 година.

## ПРАВА И ОБВРСКИ НА ДОГОВОРЕНИТЕ СТРАНИ

### Член 5

Договорените страни се должни да се придржуваат до обврските од овој Договор и одговараат за евентуална штета настаната како резултат на нивното постапување или неопоставување спротивно Договорот.

### Член 6

Купувачот во секое време има право усмено или писмено да го извести продавачот дека повеќе не е во можност да го откупува отпадниот материјал по цена договорена во тој момент.

### Член 7

За се што не е регулирано со овој Договор ќе се применуваат одредбите на Законот за облигациони односи и други и други позитивни прописи на Република Македонија.

### Член 8

Договорот е склучен во 4 (четири) идентични примероци по два примерока за секоја од договорните страни.

### Член 9

Во случај на спор договорните страни ќе се обидат да ги разрешат недоразбирањата по пат на преговори, во спротивно надлежен е Основен Суд Скопје 2 Скопје.

### Член 10

Договорот е склучен на определено време од една година сметано од денот на склучување на Договорот.

### Член 11

Договорот стапува на сила на денот на потпишувањето.

## ДОГОВОРЕНИ СТРАНИ

КУПУВАЧ

Еко Циркон Доо



ПРОДАВАЧ

Скопје Север АД



4. VI

.1 , 1



.1: (1 ), A1 N: 42,015650 E: 21,437190

5. VII:

.2

, C1.



.2:

, C1 N: 42,015890 E: 21,436788

6. : ,

X.1-1

/	/	/ .	dB	( ) /
3m	-	Cirrus CR:171B	54,5	4
3m		Cirrus CR:171B	56,3	4

X.1-2

:	(5N, 5E)	[dB]		
		L(A) <sub>eq</sub>	L(A) <sub>10</sub>	L(A) <sub>90</sub>
1: AN1	N 42,015444 E 21,436960	56,3	53,4	57,6
2: AN2	N 42,01599 E 21,43686	53,37	49,67	54,8
3: AN3	N 42,01544 E 21,43696	53,94	51,45	55,5
4: AN4	N: 42,015424 E: 21,436526	57,2	54,3	57,8

.120/2008 .)

III

( .

XI.2.1

.3





4:

7. XI:

.5



1. A1 N: 42,015650 E: 21,437190
2. C1 N: 42,015890 E: 21,436788
3. N1 N: 42,015444 E: 21,436960
4. N2 N: 42,015999 E: 21,436866
5. N3 N: 42,015477 E: 21,436947
6. N4 N: 42,015424 E: 21,436526

.5: E

a

8. XII

( .1).

.XII.1:

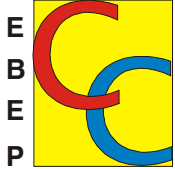
N <sup>o</sup>				
			/	/
1.	.			
2.			/	2023
3.	EN 15259		/	2022
4.			/	2020
5.			/	2020

9. I.3

.6



.6:



XVI.

( / .53/05, 81/05, 24/07, 159/08, 83/09,  
48/10, 124/10, 51/2011, 123/12, 93/13, 187/13, 42/14, 44/15, 129/15, 39/16 99/18)

:

( )

: 21.07.2020

Име на потписникот: Моника Гимосиевска

Позиција во организацијата : ДИРЕКТОР

