

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: Sodium oxide
Cat No. : 36712
Molecular Formula Na₂O + Na₂O₂

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

Details of the supplier of the safety data sheet

Importer Fisher Scientific Korea D5,D6, Incheon Airport Logistics Complex 150, Gonghangdong-Ro Mapo-Gu 296 Beon-Gil Jung-Gu, Incheon 400-340 Tel: +82-2-6196-5500 Fax: +82-2-6196-5501	Supplier Alfa Aesar Thermo Fisher Scientific Chemicals, Inc. 30 Bond Street Ward Hill, MA 01835-8099
---	---

E-mail address Chem.KR@thermofisher.com

Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards

Oxidizing solids Category 1

Health hazards

Skin Corrosion/Irritation Category 1 A
Serious Eye Damage/Eye Irritation Category 1

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022



Signal Word

Danger

Hazard Statements

H271 - May cause fire or explosion; strong oxidizer

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary Statements

Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P220 - Keep away from clothing and other combustible materials

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P283 - Wear fire resistant or flame retardant clothing

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash hands and face thoroughly after handling

Response

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

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 or shower

P306 + P360 - IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes

P371 + P380 + P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor

P321 - Specific treatment (see supplemental first aid instructions on this label)

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage

P405 - Store locked up

P420 - Store separately

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

Reacts violently with water

NFPA

Health
4

Flammability
0

Instability
2

Physical hazards
W OX

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	Common Name	CAS No	Index No	Weight %
Sodium oxide	No information available	N/A	Not listed	99 - 100

SECTION 4: FIRST AID MEASURES

ALFAA36712

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

Description of first aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Ingestion

Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Dry sand. Carbon dioxide (CO₂). Powder. Do not use water or foam. CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

Water.

Special hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Reacts violently with water. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

None under normal use conditions.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Environmental precautions

Should not be released into the environment. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Do not expose spill to water. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water. Keep away from clothing and other combustible materials.

Conditions for Safe Storage, Including any Incompatibilities

Corrosives area. Keep away from water or moist air. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
Sodium oxide	N/A	Not listed	Not listed	Not listed

Component	CAS No	European Union	The United Kingdom	Germany
Sodium oxide	N/A	Not listed	Not listed	Not listed

Biological Exposure Indices

Component	CAS No	Biological Exposure Indices
Sodium oxide	N/A	Not listed

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection	Goggles
Hand Protection	Protective gloves
Skin and body protection	Long sleeved clothing

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Personal protective equipment Use only those certified by the Korea Occupational Safety and Health Administration.
Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Recommended Filter type: Particulates filter conforming to EN 143
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (Physical State, Color, etc.) Solid Beads
Odor No information available
Odor Threshold No data available
pH No information available

Melting Point/Range No data available
Softening Point No data available
Boiling Point/Range No information available
Flash Point No information available **Method -** No information available

Evaporation Rate Not applicable Solid
Flammability (solid,gas) No information available
Explosion Limits No data available

Vapor Pressure 23 hPa @ 20 °C
Vapor Density Not applicable Solid
Specific Gravity / Density 2.27 g/cm³ @ 20 °C
Bulk Density No data available
Water Solubility Insoluble in water
Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
Sodium oxide	N/A	No data available

Autoignition Temperature No data available
Decomposition Temperature No data available

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	Oxidizer	
Molecular Formula	Na ₂ O + Na ₂ O ₂	
Molecular Weight	61.98	

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Yes
Chemical Stability	Air sensitive. Moisture sensitive. Oxidizer: Contact with combustible/organic material may cause fire.
Possibility of Hazardous Reactions	
Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing. Reacts violently with water.
Conditions to Avoid	Exposure to moist air or water. Exposure to moisture. Incompatible products. Excess heat. Combustible material.
Incompatible Materials	Reducing Agent. Strong reducing agents. Combustible material.
Hazardous Decomposition Products	None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

Information on expected route of exposure

Inhalation	Not an expected route of exposure.
Ingestion	May be harmful if swallowed.
Eyes	Avoid contact with eyes. Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes.
Skin	Avoid contact with skin. Causes burns. Skin Corrosion/Irritation. Contact with moist skin may cause skin burns.

Information on Health Hazards

(a) acute toxicity;

Oral	No data available
Dermal	No data available
Inhalation	No data available

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium oxide	N/A	No data available	No data available	No data available

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

(b) skin corrosion/irritation; Category 1

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

Component	CAS No	Test method	Test species	Study result
Sodium oxide	N/A	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
Sodium oxide	N/A	No data available	No data available	No data available

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Sodium oxide	N/A	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
Sodium oxide	N/A	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Sodium oxide	N/A	No data available	No data available	No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available
Target Organs No information available.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Component	CAS No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sodium oxide	N/A	No data available	No data available	No data available	No data available

Persistence and degradability

Persistence

Insoluble in water.

Bioaccumulative potential

May have some potential to bioaccumulate

Mobility in soil

Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water solubility.

Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
Sodium oxide	N/A	Not listed

Other adverse effects

No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products

Waste is classified as hazardous. Dispose in accordance with the Wastes Control Act (폐기물관리법).

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport

UN-No

UN3085

Proper Shipping Name

Oxidizing solid, corrosive, n.o.s.

Technical Shipping Name

(SODIUM MONOXIDE, SODIUM PEROXIDE)

Hazard Class

5.1

Subsidiary Hazard Class

8

Packing Group

I

IATA

UN-No

UN3085

Proper Shipping Name

OXIDIZING SOLID, CORROSIVE, N.O.S.*

Technical Shipping Name

(SODIUM MONOXIDE, SODIUM PEROXIDE)

Hazard Class

5.1

Subsidiary Hazard Class

8

Packing Group

I

IMDG/IMO

UN-No

UN3085

Proper Shipping Name

Oxidizing solid, corrosive, n.o.s.

Technical Shipping Name

(SODIUM MONOXIDE, SODIUM PEROXIDE)

Hazard Class

5.1

Subsidiary Hazard Class

8

Packing Group

I

Marine Pollutant

No hazards identified

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Legend: X - Listed '-' - Not Listed

International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
Sodium oxide	N/A	-	-	-	-	-	-	-	-	-	-

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Subject to Process Safety Reports	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

		(minimum quantity)	
Sodium oxide	N/A	Not applicable	Not applicable

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

NFA Dangerous Substances Classification

Class 1.11 (Containing 1-10) - 50 kg

Control Parameters

Component	CAS No	Korea	Biological Exposure Indices
Sodium oxide	N/A	Not listed	Not listed

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Sodium oxide	N/A	Not applicable	Not applicable

CERCLA

Not applicable

Component	CAS No	CERCLA EHS RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Sodium oxide	N/A	Not applicable	Not applicable	Not applicable

CLP Classification - Regulation (EC) No 1272/2008

Danger.

H271 - May cause fire or explosion; strong oxidizer. H314 - Causes severe skin burns and eye damage. EUH014 - Reacts violently with water.

P221 - Take any precaution to avoid mixing with combustibles. P371 + P380 + P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

SAFETY DATA SHEET

Sodium oxide

Revision Date 18-Apr-2022

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC (volatile organic compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Prepared By	Health, Safety and Environmental Department
Creation Date	15-Apr-2015
Revision Date	18-Apr-2022
Revision Number	4
Revision Summary	SDS sections updated.

MOEL's Public Notice No. 2020-130 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet