

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



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

1.1. Product identifier

Trade name

Sodium tert-pentoxide

CAS number

14593-46-5

EC number

238-639-4

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

Relevant identified uses

Research and development. Laboratory Chemicals. Manufacture of substances.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,
 DL1 4XX Darlington
 United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Flammable solids, hazard category 1
 Self-heating substances and mixtures, hazard category 1
 Acute toxicity, inhalation, hazard category 4
 Acute toxicity, dermal, hazard category 4
 Skin corrosion, hazard category 1B
 Serious eye damage, hazard category 1
 Specific Target Organ Toxicity — Single exposure, hazard category 3

Hazard statements

H228, H251, H312 + H332, H314, H318, H335

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H228 Flammable solid.
 H251 Self-heating: may catch fire.
 H312 + H332 Harmful in contact with skin or if inhaled.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



Precautionary statements

P103 Read carefully and follow all instructions.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P231 Handle and store contents under inert gas?.
 P232 Protect from moisture.
 P235 Keep cool.
 P260 Do not breathe .
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P302 + P352 IF ON SKIN: Wash with plenty of water/.
 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.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 P321 Specific treatment (see on this label).
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container to local regulations.

2.3. Other hazards

No data available

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Sodium tert-pentoxide	14593-46-5 238-639-4 - -	100%	Flam. Sol. 1, Self-heat. 1, Acute Tox. 4 - dermal, Acute Tox. 4 - inhalation, Skin Corr. 1B, Eye Dam. 1, STOT SE 3	H228, H251, H312 + H332, H314, H318, H335, EUH014 - -	-

Molecular weight

110.13

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions. If breathing is difficult or stops: provide oxygen or apply artificial respiration as required.

Skin contact

IF ON SKIN: Wash with plenty of soap and water. Continue to rinse for at least 15 minutes. Get medical attention immediately!

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention. Immediately transport to hospital or eye specialist.

Ingestion

Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

Information for doctors

No data available.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

May cause temporary eye irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards: FLAMMABLE. Corrosive.

Containers can burst violently when heated, due to excess pressure build-up.

Vapours may form explosive mixture with air at room temperature.

Carbon monoxide (CO). Carbon dioxide (CO₂).

Combustible.

Vapours are heavier than air and may travel along the floor and in the bottom of containers.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours and spray mist and contact with skin and eyes. For personal protection, see section 8. Provide adequate ventilation. Remove sources of ignition. Beware of the explosion danger. Take action to prevent static discharges.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Risk of explosion.

6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers. Remove sources of ignition. Beware of the explosion danger. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take action to prevent static discharges. Use spark-proof tools and explosion-proof equipment. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store at room temperature. Store in a dry place. Store in a closed container.

Handle and store contents under inert gas.

Moisture Sensitive. Air sensitive. Reacts violently with water.

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

Storage class Self-heating: may catch fire. Pyrophoric: Spontaneously flammable in air.

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

No occupational exposure limit assigned.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



8.2. Exposure controls

Personal Protective Equipment Symbols



Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves.

Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Colour

Light yellow

Odour

Odourless.

Melting point / freezing point

300 °C

Boiling point or initial boiling point and boiling range

No data available

Flammability

No data available

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



Lower and upper explosion limit

No data available

Flash point

No data available

Auto-ignition temperature

110 °C

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

No data available

Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

No data available

Relative density

1.12

Relative vapour density

No data available

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Self-heating: may catch fire.

The following applies in general to flammable organic substances and mixtures: when finely distributed, the risk of a dust explosion may be assumed.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



10.2. Chemical stability

Stable under normal temperature conditions. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

There are no known conditions that are likely to result in a hazardous situation.

10.4. Conditions to avoid

Heat, sparks, flames.

Do not allow contact with water.

Air.

10.5. Incompatible materials

Reacts violently with water. Strong oxidising agents. Acids Alcohols

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

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

Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure
Sodium tert-pentoxide 14593-46-5 / 238-639-4	ATE = Acute Toxicity Estimate.	1.6 mg/l (dust/mist)	Inhalation.	4 hours
Sodium tert-pentoxide 14593-46-5 / 238-639-4	ATE = Acute Toxicity Estimate.	1,100.1 mg/kg	Dermal	-

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species	Method / Guideline
Sodium tert-pentoxide 14593-46-5 / 238-639-4	Irritating.	4 hours	skin	In vitro study

STOT-single exposure

Product / Substance name CAS / EC no.	Result
Sodium tert-pentoxide	May cause respiratory irritation.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



Product / Substance name CAS / EC no.	Result
14593-46-5 / 238-639-4	

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

3206

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. (Sodium tert-pentoxide)

IMDG proper shipping name

ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. (Sodium tert-pentoxide)

IATA proper shipping name

Alkali metal alcoholates, self-heating, corrosive, n.o.s. (Sodium tert-pentoxide)

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



4.2



8

IMDG



4.2



8

IATA



4.2



8

ADR / RID Class

4.2

ADR / RID Classification code

SC4

ADR / RID hazard identification number

48

IMDG Class

4.2 (8)

IATA Class

4.2 (8)

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
 Issued: 2024-02-21
 Replaces SDS: 2019-04-25



ADN Class

4.2

ADN Class Code

SC4

14.4. Packing group

ADR / RID / ADN: II

IMDG: II

IATA: II

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Special precautions for user

Tunnel restriction code: D/E

Transport category: 2

IMDG EmS

F-A, S-J

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC05

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Sodium tert-pentoxide

Version number: 2
Issued: 2024-02-21
Replaces SDS: 2019-04-25



SECTION 16: Other information

Phrase meaning

Flam. Sol. 1 - Flammable solids, hazard category 1

Self-heat. 1 - Self-heating substances and mixtures, hazard category 1

Acute Tox. 4 - inhalation - Acute toxicity, inhalation, hazard category 4

Acute Tox. 4 - dermal - Acute toxicity, dermal, hazard category 4

Skin Corr. 1B - Skin corrosion, hazard category 1B

Eye Dam. 1 - Serious eye damage, hazard category 1

STOT SE 3 - Specific Target Organ Toxicity — Single exposure, hazard category 3

H228 Flammable solid.

H251 Self-heating: may catch fire.

H312 + H332 Harmful in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

EUH014 Reacts violently with water.