

MATERIAL SAFETY DATA SHEET (COSHH)**1. IDENTIFICATION OF THE PRODUCT AND COMPANY**

Product Name	Sodium Azide
MSDS#	20960
CAS Number:	BPE922I-500, S/2360, S/2380 26628-22-8
Synonyms	Sodium salt of Hydrazoic acid; Smite; Azium.
Company identification:	Fisher Scientific UK Bishop Meadow Road Loughborough Leicestershire LE11 5RG UNITED KINGDOM
For information, call:	01509 231166
For emergencies, call:	01509 231166

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	Chemical Name	Percentage	Formula	EINECS No.
26628-22-8	Sodium Azide	>99%	NaN ₃	247-852-1
7732-18-5	Water	<0.5%	H ₂ O	231-791-2
7782-79-8	Hydrazoic acid	trace	NH ₃	231-965-8

Hazard symbols: T+N

Risk Phrases: 28 32 50/53

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

- Very toxic if swallowed.
- Contact with acids liberates very toxic gas.
- Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment.
- Heat sensitive.
- Dangerous for the environment.

POTENTIAL HEALTH EFFECTS

Area	Potential Effect
Eye	Causes eye irritation
Skin	Causes skin irritation. May be fatal if absorbed through the skin. If absorbed, causes symptoms similar to those of ingestion.
Ingestion	May be fatal if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhoea. Sodium Azide may cause hypotension (abnormally low blood pressure), tachycardia (rapid heart rate), tachypnea (quick, shallow breathing), hypothermia (low body temperature), convulsions and severe headache.
Inhalation	May be fatal if inhaled. Dust is irritating to the respiratory tract. May cause effects similar to those described for ingestion. Rapidly absorbed.
Chronic	Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

4. FIRST-AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance.

4.1	Inhalation	POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
4.2	Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.
4.3	Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
4.4	Ingestion	Call a poison control centre. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapours may form an explosive mixture with air.

Water reactive. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Forms explosion sensitive compounds with some metals such as lead and copper. Form Hydrazoic acid vapour in contact with acid or water. Hydrazoic acid vapour is highly toxic and a dangerous explosive. Hydrazoic acid is shock sensitive.

Extinguishing Media:

Do NOT get water inside containers. Use dry chemical, carbon dioxide, or alcohol-resistant foam.

6. ACCIDENTAL RELEASE MEASURES

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. Do not flush down the drain. Over a period of time, sodium Azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the highly explosive compounds of lead Azide and copper Azide.

7. HANDLING AND STORAGE

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimise dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use only with adequate ventilation. Do not use with metal spatula or other metal items.

Storage:

Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Keep away from acids. Do not store in metal containers. Keep containers tightly closed. Some have recommended storage in an explosion-proof refrigerator.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION***Engineering Controls:***

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilising this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

CAS# 26628-22-8:

United Kingdom, WEL - TWA: 0.1 mg/m³ TWA (as NaN₃)

United Kingdom, WEL - STEL: 0.3 mg/m³ STEL (as NaN₃)

Personal Protective Equipment

Area	Personal Protective Equipment
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin	Wear appropriate protective gloves to prevent skin exposure.
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Respirators	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Crystals
Colour	Colourless to white
Odour	Odourless
pH	No data available
Melting point	527°C
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	Negligible
Water solubility	Soluble
Viscosity	No data available
Specific Gravity/Density	1.85
Molecular Formula	See Section 2
Molecular Weight	65.01

10. STABILITY AND REACTIVITY

10.1 Chemical stability

Stable. However, may decompose if heated. May be shock-sensitive.

10.2 Conditions to avoid

- Mechanical shock
- Light
- Contact with water
- Temperatures above 527°C

10.3 Incompatibles with other Materials

Oxidising agents, acids, some metals.

10.4 Hazardous decomposition products

Nitrogen oxides, sodium oxide, Hydrazoic acid.

10.5 Hazardous Polymerisation

Has not been reported.

11. TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 7732-18-5: ZC0110000

CAS# 7782-79-8: MW2800000

CAS# 26628-22-8: VY8050000

LD50/LC50:

RTECS: CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;.

RTECS: CAS# 7782-79-8: Inhalation, mouse: LC50 = 34 mg/m³; Oral, rat: LD50 = 33 mg/kg;.

RTECS: CAS# 26628-22-8: Inhalation, mouse: LC50 = 32400 ug/m³; Inhalation, rat: LC50 = 37 mg/m³; Oral, mouse: LD50 = 27 mg/kg; Oral, rat: LD50 = 27 mg/kg; Skin, rabbit: LD50 = 20 mg/kg; Skin, rat: LD50 = 50 mg/kg;.

Carcinogenicity:

Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Hydrazoic acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Sodium Azide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other:

See actual entry in RTECS for complete information.

12. ECOLOGICAL INFORMATION

12.1	Toxicity	Fish: Rainbow trout: LC50 = 0.8-1.6 mg/L; 96 Hr.; 13° C Fish: Bluegill/Sunfish: LC50 = 0.7-0.8 mg/L; 96 Hr.; 18° C
12.2	Other	Harmful to aquatic life in very low concentrations.
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	Other adverse effects	No data available

13. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations. See also Section 6.

14. TRANSPORT INFORMATION**IATA**

Shipping Name: SODIUM AZIDE
Hazard Class: 6.1
UN Number: 1687
Packing Group: II

IMO

Shipping Name: SODIUM AZIDE
Hazard Class: 6.1
UN Number: 1687
Packing Group: II

RID/ADR

Shipping Name: SODIUM AZIDE
Dangerous Goods Code: 6.1 (42B)
UN Number : 1687

15. REGULATORY INFORMATION***European/International Regulations***

European Labelling in Accordance with EC Directives

Hazard Symbols: T+N

Risk Phrases:

R28	Very toxic if swallowed.
R32	Contact with acids liberates very toxic gas.
R50/53	Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S28A	After contact with skin, wash immediately with plenty of water.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60	This material and/or its container must be disposed of as hazardous waste.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.

CAS# 7782-79-8: No information available.

CAS# 26628-22-8: 2

United Kingdom Occupational Exposure Limits

CAS# 7782-79-8: OES-United Kingdom, STEL as vapour: 0.1 ppm STEL; 0.18 mg/m³ STEL

Canada

CAS# 7732-18-5: is listed on Canada's DSL List

CAS# 7782-79-8: is listed on Canada's NDSL List

CAS# 26628-22-8: is listed on Canada's DSL List

CAS# 7732-18-5: is not listed on Canada's Ingredient Disclosure List

CAS# 7782-79-8: is listed on Canada's Ingredient Disclosure List

CAS# 26628-22-8: is listed on Canada's Ingredient Disclosure List

Exposure Limits

CAS# 7782-79-8: OEL-DENMARK: STEL 0.1 ppm (0.2 mg/m³)

OEL - GERMANY: TWA 0.1 ppm (0.27 mg/m³)

OEL - SWITZERLAND: TWA 0.1 ppm 0.18 mg/m³; STEL 0.2 ppm

OEL - UNITED KINGDOM: STEL 0.1 ppm (VAPOUR)

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

CAS# 26628-22-8: OEL-AUSTRALIA: TWA 0.1ppm (0.3 mg/m3)

OEL - BELGIUM: STEL 0.11 ppm (0.3 mg/m3)

OEL - DENMARK: TWA 0.3 mg/m3

OEL - FINLAND: TWA 0.1 ppm (0.3 MG/M3); STEL 0.3 ppm (0.9 mg/m3)

OEL - FRANCE: STEL 0.1 ppm (0.3 mg/m3)

OEL - GERMANY: TWA 0.07 ppm (0.2 mg/m3)

OEL - THE NETHERLANDS: TWA 0.1 ppm (0.3 mg/m3)

OEL - SWITZERLAND: TWA 0.07 ppm (0.2 mg/m3)

OEL - UNITED KINGDOM: TWA 0.1 ppm (0.3 mg/m3); STEL

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGIH TLV

US FEDERAL TSCA

CAS# 7732-18-5: is listed on the TSCA inventory.

CAS# 7782-79-8: is listed on the TSCA inventory.

CAS# 26628-22-8: is listed on the TSCA inventory.

16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.