

SAFETY DATA SHEET SODIUM NITRITE TECH

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

1.1. Product identifier

Product name	SODIUM NITRITE TECH
Product No.	2779
REACH Registration number	01-2119471836-27-XXXX
CAS-No.	7631-99-4
EC No.	231-554-3

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

Identified uses	Laboratory chemicals Intermediate Corrosion inhibitor. Raw material
Uses advised against	Processes involving incompatible materials. Processes that would lead to over-exposure of the operators.

1.3. Details of the supplier of the safety data sheet

Supplier	Reagent Chemical Services 18 Aston Fields Road Whitehouse Industrial Estate Runcorn Cheshire WA7 3DL T: 01928 716903 (08.30 - 17.00) F: 01928 716425 E: info@reagent.co.uk
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1.4. Emergency telephone number

NHS Direct. Tel. 0845 4647 (24 Hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)	Physical and Chemical Hazards	Ox. Sol. 3 - H272
	Human health	Acute Tox. 3 - H301
	Environment	Aquatic Acute 1 - H400
Classification (67/548/EEC)	O;R8 T;R25 N;R50	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

Irritating to eyes. May cause skin irritation. Toxic if swallowed.

Environment

The product is classified as very toxic to aquatic life. The substance is soluble in water and will spread in water systems.

Physical and Chemical Hazards

Oxidising substance; May promote the spread of fire through supply of oxygen. May corrode metal surfaces on prolonged or repeated contact.

2.2. Label elements

EC No.	231-554-3
Label In Accordance With (EC) No. 1272/2008	

SODIUM NITRITE TECH



Signal Word	Danger	
Hazard Statements	H272	May intensify fire; oxidiser.
	H301	Toxic if swallowed.
	H400	Very toxic to aquatic life.
Precautionary Statements	P273	Avoid release to the environment.
	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
	P220	Keep/Store away from clothing/combustible materials.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
	P501	Dispose of contents / container to hazardous waste depot.
Supplementary Precautionary Statements	P221	Take any precaution to avoid mixing with combustibles.
	P264	Wash ... thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P321	Specific treatment (see ... on this label).
	P330	Rinse mouth.
	P370+378	In case of fire: Use ... for extinction.
	P391	Collect spillage.
	P405	Store locked up.

2.3. Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Product name	SODIUM NITRITE TECH
REACH Registration number	01-2119471836-27-XXXX
CAS-No.	7631-99-4
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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

CAUTION! First aid personnel must be aware of own risk during rescue! Always consider any dangers in the vicinity before approaching to treat the casualty. First aid personnel must protect themselves with all necessary personal protective equipment during the assistance of casualties. When breathing is difficult, properly trained personnel may assist the casualty by administering oxygen. Place unconscious person on the side in the recovery position and ensure breathing can take place. Never give anything by mouth to an unconscious person. If breathing has stopped perform CPR. Check airway for any blockages. If medical assistance is needed take as much detail as possible about the incident and hazardous materials involved with the casualty.

Inhalation

In case of exposure to dusts, remove the casualty from source of exposure, provide warmth, rest and fresh air. Get medical attention if any discomfort continues.

Ingestion

Rinse mouth thoroughly with water Do not induce vomiting. In case of ingestion of large amounts or if any discomfort continues obtain medical attention.

Skin contact

Remove contaminated clothing. Flush skin thoroughly with water. Get medical attention if any symptoms occur after washing.

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Eye contact

Promptly wash eyes with plenty of water or eyewash solution while lifting the eyelids. Remove contact lenses if possible. Get medical attention promptly if symptoms occur after washing.

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

General information

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

Inhalation

May irritate the respiratory system and cause coughing.

Ingestion

Small amounts will leave taste in mouth, larger amounts may cause nausea or vomiting. Stomach pain. Toxic by ingestion. Danger of Methaemoglobin formation.

Skin contact

May irritate the skin. May cause redness or a rash on persons with sensitive skin.

Eye contact

Irritating and may cause redness and pain. May cause burns.

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

Have facilities in place to wash skin and eyes in case of exposure. Danger of pulmonary edema. Treat with Toluonium Chloride to reverse Methaemoglobinanaemia.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

The product is non-combustible. The product may promote the spread of fire due to the supply of oxygen. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

Do not use carbon dioxide in enclosed spaces with insufficient ventilation. Do not use water jet as this can spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

None at ambient temperatures. The product in its normal state is not classed as combustible. In the heat of a fire it can produce: Nitrous gases (NOx). Oxides of: Sodium.

Unusual Fire & Explosion Hazards

Oxidising material may promote the spread of fire.

Specific hazards

In case of fire, toxic and corrosive vapours or fumes may be formed.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Prevent run-off from entering drains and watercourses. Containers close to the fire area should be cooled with water if safe to do so. Be aware that any flammable substance containers are liable to explode when heated. Use water spray to cool unopened containers.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Have emergency procedures in place for treating spillages, evacuating the area and informing the emergency services if necessary. Non-emergency personnel should be kept away from the area of spillage. Spill control personnel should wear personal protective clothing and equipment as described in section 8 of this datasheet. Avoid generation and spreading of dusts during clean up operations. Avoid ingestion of the product, inhalation of dusts and contact with skin and eyes when treating spillages.

6.2. Environmental precautions

Avoid unauthorised discharge to the environment. Clean up any spillages immediately, prevent material from spreading and entering drains or sewage systems. If the substance has entered a foul drain or sewage system in significant quantity to cause a hazard the local Water Treatment Company must be informed. Large spillages or uncontrolled discharge to water systems must be alerted to the Environmental Agency or other regulatory body. If spillages to land cannot be treated safely or if contamination will occur the Environment Agency must be alerted immediately.

6.3. Methods and material for containment and cleaning up

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Small Spillages: Carefully remove with scoop or shovel if safe to do so and transfer to waste containers. Large Spillages: Collect with shovel. If dusts are likely to be generated mix the spillage with damp sand or other compatible inert material. Dam around drains with sand or other compatible material. Fit drain covers where they are available if the spillage is likely to enter the drainage system. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Flush area clean with lots of water. Be aware of potential for surfaces to become slippery. Ventilate area and allow to dry before allowing access. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Refer to sections 8 and 13 for additional information.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling the product. Avoid spreading of dusts. Any ventilation systems must be explosion proof where dust clouds are generated. Avoid ingestion, inhalation and contact with skin and eyes. Ensure adequate ventilation and exchange of air in areas where the substance is being used.

7.2. Conditions for safe storage, including any incompatibilities

Store away from heat, direct sunlight and moisture. Do not leave storage containers exposed to the atmosphere as this may result in loss of contents or contamination. Store away from incompatible materials. Store in a stable situation to avoid spillages. It is advisable to store in a bunded area or use other protective measures such as a sump pallet or storage tray. Oxidising material - Keep away from flammable and combustible materials. Store isolated from reducing agents.

Storage Class

Oxidiser storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2. Registered uses can be found on the ECHA website under Registered Substances.

Usage Description

Use product under conditions described in this datasheet. Avoid exposure of operators and others who may be affected by its use. Avoid overuse of the product which would create waste and potential spillages. Always use recommended personal protective equipment. Only use the product for its intended use in a safe manner, do not use for other purposes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

DNEL

Industry	Inhalation.	Long Term	Systemic Effects	2 mg/m3
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PNEC

Freshwater	0.0054	mg/l		
Marinewater	0.00616	mg/l		
Intermittent release	0.0054	mg/l		
STP	21	mg/l		
mg/kg	Sediment (Freshwater)	0.0195		
Sediment (Marinewater)	0.0223	mg/kg		
Soil	0.000733	mg/kg		

8.2. Exposure controls

Engineering measures

If dusts are generated then ensure adequate ventilation and appropriate extraction facilities are in place to avoid occupational exposure.

Respiratory equipment

Wear suitable dust respirator if dusts are generated and there is insufficient ventilation or extraction. Dust filter P3 (for especially fine dust/powder). Respiratory protection should conform to the following standards. BS EN 143: Particulates. CAUTION: Air purifying respirators do not protect the user in oxygen deficient atmospheres, use air supplied system. Powered air respirators should meet requirements of EN146 and EN12941. Airline fed respirators should meet the requirements of EN 270 and EN1835. Respiratory protection should be maintained in a proper condition and inspected at the frequency specified by current legislation.

Hand protection

Wear protective gloves. Nitrile. Polyvinyl chloride (PVC). Chloroprene rubber. Use gloves of 1.0mm thickness if available and >480 minutes breakthrough time. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Be aware that the substance may penetrate the glove, frequent change is advisable. Gloves showing signs of degradation should be changed to avoid skin contamination. Gloves should have a breakthrough time sufficient for the amount of handling but allow dexterity for safe movement and handling. Gloves should carry the CE mark and conform to BS EN 374, chemicals and micro-organisms. When removing used gloves apply proper technique by avoiding skin contact with the outer surface. When packages of the product are being handled during storage or transport it is advisable to wear protective gloves to prevent damage to the skin.

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Eye protection

Wear approved chemical safety goggles conforming to EN 166.

Other Protection

Wear suitable protective clothing during transport, handling and storage operations connected with the product. Protective clothing should conform to the general requirements of EN 340:2003. Also consider EN 13034:2005; EN 14605:2005; EN 943:2002 dependent upon the situation resulting in exposure. When treating spillages it is recommended to wear protective boots. Safety footwear should conform to standards EN 344 - 347. Consult with the supplier as to the compatibility of protective clothing and footwear. Wear rubber apron and full length gauntlets if handling large amounts. Provide eyewash station and if handling large amounts, a safety shower.

Hygiene measures

Do not eat, drink or smoke in the work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing when entering eating areas or other places that could lead to contamination of others with the product. Promptly remove contaminated clothing and wash before reuse.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Solid Crystalline powder.
Colour	White / off-white.
Odour	Odourless.
Solubility	Very soluble in water.
Initial boiling point and boiling range (°C)	
No information available.	
Melting point (°C)	Approx. 280°C
Relative density	2.17 g/cm3
Bulk Density	
No information available.	
Vapour density (air=1)	
No information available.	
Vapour pressure	0.12 mm Hg @ 524.85°C
Evaporation rate	
No information available.	
Evaporation Factor	
No information available.	
pH-Value, Conc. Solution	8 - 9 @10%
pH-Value, Diluted Solution	
Not determined.	
Viscosity	
Technically not feasible.	
Solubility Value (G/100G H2O@20°C)	82g @ 20°C, pH 9
Decomposition temperature (°C)	> 320°C >320°C produces NO, NO2, Na2O. >600°C produces N2, O2, Na2O.
Odour Threshold, Lower	
No information available.	
Odour Threshold, Upper	
No information available.	
Flash point (°C)	
No information available.	
Auto Ignition Temperature (°C)	
No information available.	
Flammability Limit - Lower(%)	
Not applicable.	
	Non-flammable.
Flammability Limit - Upper(%)	
Not applicable.	
	Non-flammable.
Partition Coefficient (N-Octanol/Water)	
Not relevant	

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Inorganic substance

Explosive under influence of flame.

Explosive when heated above 1000°C.

Solid/Liquid Ignition On Contact With Air.

No

Oxidising properties 4:1 mixture, by mass, of product and cellulose. 16 sec

Oxidising

Comments 'Not available' means the information is not registered or is not available from the supplier.

9.2. Other information

All available information has been included in section 9.1.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Oxidising agent and reactive. May react vigorously. Can react with combustible materials to promote fire by the supply of oxygen.

10.2. Chemical stability

Stable under normal temperature conditions. Hygroscopic.

10.3. Possibility of hazardous reactions

May react violently or exothermically. Reactions in a sealed container may cause pressure build up and rupture.

Hazardous Polymerisation

Will not polymerise.

10.4. Conditions to avoid

Avoid heat, direct sunlight and moisture. Avoid storage in freezing conditions. Avoid transfer to an incompatible container. Avoid contact with any incompatible materials. Do not allow the storage container to be left exposed to the atmosphere. Avoid storage in an unstable manner or in a situation that would result in exposure to the product.

10.5. Incompatible materials

Materials To Avoid

Reducing agents Oxidisable substances Ammonium compounds. Amines. Acids.

10.6. Hazardous decomposition products

None under normal conditions. See section 5 for thermal decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity:

Acute Toxicity (Oral LD50)

180 mg/kg Rat

Acute Toxicity (Dermal LD50)

No information available.

Other justification

Acute Toxicity (Inhalation LC50)

No information available.

No reliable information.

Skin Corrosion/Irritation:

No reliable information. Tests on rabbits to OECD Guideline 404 (Acute Dermal Irritation / Corrosion).

Serious eye damage/irritation:

No reliable information. Tests on rabbits to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitisation:

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Respiratory sensitisation

No information available.

No supplied or registered information.

Skin sensitisation

No information available.

No supplied or registered information.

Germ cell mutagenicity:

Genotoxicity - In Vitro

Bacterial Reverse Mutation Test

S. typhimurium.

Positive. With and without metabolic activation.

Positive for genotoxicity.

Genotoxicity - In Vivo

Chromosome aberration:

Micronucleus assay on mice.

Negative.

No genotoxicity under the conditions of the test. Intraperitoneal route.

Carcinogenicity:

Not classified as a carcinogen but has produced positive results in female mice.

Reproductive Toxicity:

Reproductive Toxicity - Fertility

NOAEL Oral Mouse

Up to 190 mg/kg no NOAEL was identified.

Reproductive Toxicity - Development

Developmental toxicity: NOAEL None observed Oral Mouse

No NOAEL at 0.5mg sodium nitrite (about 17 mg/kg bw/day).

No significant effects on fetal development.

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure

NOEL = 10mg/kg bw/day Oral Rat

Target Organs

Blood Heart Lungs

Effects seen at 100, 250 and 350 mg/kg bw/day.

General information

Effects will be dependent upon the concentration and length of time of exposure. Higher concentrations will produce more pronounced effects. Risk of pulmonary edema.

Inhalation

Irritation of the respiratory system. In high concentrations dusts may cause difficulties in breathing. May cause damage to mucous membranes.

Ingestion

Toxic if swallowed. Nausea, vomiting. Internal pain. Methaemoglobin formation.

Skin contact

May cause skin irritation.

Eye contact

Irritating to eyes. Redness.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic organisms.

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12.1. Toxicity

Acute Toxicity - Fish

LC50 96 hours 0.54 - 26.3 mg/l *Onchorhynchus mykiss* (Rainbow trout)

Mortality Freshwater, flow through.

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours 15.4 mg/l *Daphnia magna*

OECD Guideline 202. Static, freshwater. Mobility.

Acute Toxicity - Aquatic Plants

EC50 72 hours > 100 mg/l *Scenedesmus subspicatus*

Guideline OECD 201. *Scenedesmus subspicatus* is now known as *Desmodesmus subspicatus*. Growth rate, static, freshwater.

Acute Toxicity - Microorganisms

EC50 3 hours 510 mg/l Activated sludge

OECD Guideline 209: Activated Sludge, Respiration Inhibition Test. Static, freshwater.

Chronic Toxicity - Fish Early life Stage

NOEC 21 mg/l *Cyprinus carpio* (Common carp)

OECD 210 (Fish, Early-life Stage Toxicity Test) Freshwater 29 day exposure, accumulated mortality.

Short Term Toxicity - Embryo and Sac Fry Stages

Not available.

No supplied or registered information

Chronic Toxicity - Aquatic Invertebrates

EC50 114.9 mg/l

Semi-static, saltwater, 80 day, water shrimp, sodium nitrite. Based on weight gain.

Acute Toxicity - Terrestrial

Not available.

Other justification

Toxicity to soil:

No registered or supplied information.

Toxicity to terrestrial plants:

No registered or supplied information.

12.2. Persistence and degradability

Phototransformation

Not available.

No supplied or registered information

Stability (Hydrolysis)

Not available.

No supplied or registered information

Biodegradation

Not available.

No supplied or registered information

Biological Oxygen Demand

No information available.

Chemical Oxygen Demand

No information available.

12.3. Bioaccumulative potential

Bioaccumulative potential

The product is not bioaccumulating.

Partition coefficient

Not relevant

Inorganic substance

12.4. Mobility in soil

Mobility:

The product is water soluble and will travel in soil water. The sodium ion will be adsorbed onto soil particles while the nitrite will remain in solution and be broken down by bacteria.

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Adsorption/Desorption Coefficient

Not applicable.

Henry's Law Constant

Not applicable.

Surface tension

Not applicable.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Will affect drinking water supplies.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Any waste material is classed as hazardous waste, it should only be disposed of through licenced waste handlers and treatment sites. Do not allow unauthorised disposal to the environment. Provide sufficient ventilation and appropriate extraction facilities to avoid exposure of operators during waste disposal.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Waste should be treated by hazardous waste disposal company. Reclaim if possible or neutralise / incinerate. When dealing with waste always consider the waste management hierarchy of Prevention, Preparation for re-use, Recycling, Recovery and Disposal. It is advisable to minimise waste at source if possible, then re-use, recover or recycle wherever possible before considering waste disposal options.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	1500
UN No. (IMDG)	1500
UN No. (ICAO)	1500

14.2. UN proper shipping name

Proper Shipping Name	SODIUM NITRITE
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14.3. Transport hazard class(es)

ADR/RID/ADN Class	5.1
ADR/RID/ADN Class	Class 5.1: Oxidising substances.
ADR Label No.	5.1 & 6.1
IMDG Class	5.1
ICAO Class/Division	5.1
ICAO Subsidiary risk	6.1
Transport Labels	



14.4. Packing group

ADR/RID/ADN Packing group	III
IMDG Packing group	III

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ICAO Packing group

III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



14.6. Special precautions for user

EMS	F-A, S-Q
Emergency Action Code	1Z
Hazard No. (ADR)	56
Tunnel Restriction Code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable. For packages of supplied material.

SECTION 15: REGULATORY INFORMATION

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

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716). Control of Substances Hazardous to Health.

Guidance Notes

Approved Classification and Labelling Guide (CHIP 4) ECHA Guidance on the Compilation of Safety Data Sheets, September 2011.

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments. Regulation (EU) 453/2010.

15.2. Chemical Safety Assessment

Information from the manufacturer of the raw material has not been received regarding Chemical Safety Assessments, Exposure Scenarios or a Chemical Safety Report.

SECTION 16: OTHER INFORMATION

General information

This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons. Under REACH Material Safety Datasheets (MSDS) are referred to as Safety Datasheets (SDS).

Information Sources

ECHA website. Raw material safety data sheets.

Revision Comments

This is first issue.

Revision Date	18/10/2013
Revision	1
SDS No.	21115

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Risk Phrases In Full

R8	Contact with combustible material may cause fire.
R25	Toxic if swallowed.
R50	Very toxic to aquatic organisms.

Hazard Statements In Full

H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H400	Very toxic to aquatic life.