Material Safety Data Sheet

Sodium Azide

1 . Product and company identification

Product name	:	Sodium Azide
Product code	:	1.06688
Supplier	:	EMD Chemicals Inc. 480 S. Democrat Rd. Gibbstown, NJ 08027 856-423-6300 Technical Service Monday-Friday: 8:00 -5:00 PM
Synonym	:	Azium
Material uses	:	Other non-specified industry: Analytical reagent.
Validation date	:	3/23/2009.
In case of emergency	:	800-424-9300 CHEMTREC (USA) 613-996-6666 CANUTEC (Canada) 24 Hours/Day: 7 Days/Week

2 . Hazards identification

Emergency overview :

DANGER!

MAY BE FATAL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, CARDIOVASCULAR SYSTEM, SKIN, EYES, CENTRAL NERVOUS SYSTEM.
CONTACT WITH ACID LIBERATES POISIONOUS GAS.
FORMS EXPLOSION SENSITIVE MIXTURES WITH CERTAIN MATERIALS.
Toxic to aquatic organisms, may cause long-term adverse effect in the aquatic environment.

Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Physical state	:	Solid. (Crystals or powder)
OSHA/HCS status	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	:	Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation	:	Very toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	:	Very toxic if swallowed.
Skin	:	Very toxic in contact with skin. Irritating to skin.
Eyes	:	Irritating to eyes.

Potential chronic health effects

Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.
Target organs	:	May cause damage to the following organs: kidneys, cardiovascular system, skin, eyes, central nervous system (CNS).
Medical conditions aggravated by over-exposure	:	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

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3 . Composition/information on ingredients

Name	CAS number	% by weight
Sodium Azide	26628-22-8	100

4 . First aid measures

Eye contact : Call medical doctor or poison control center immediately. Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : Call medical doctor or poison control center immediately. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Call medical doctor or poison control center immediately. Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5 . Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on explosion hazards : Forms explosion sensitive compounds with some metals such as lead, silver, mercury and copper.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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7 . Handling and storage

Handling : Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Sodium Azide	**OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** CEIL: 0.1 ppm, (as HN3) CEIL: 0.3 mg/m³, (as NaN3) **NIOSH REL (United States, 6/2008). Absorbed through skin.** CEIL: 0.1 ppm, (as HN3) CEIL: 0.3 mg/m³, (NAN3) **ACGIH TLV (United States, 1/2008).** C: 0.11 ppm, (as hydrazoic acid vapor) Form: as Hydrazoic acid vapor C: 0.29 mg/m³, (as hydrazoic acid vapor) Form: as Sodium azide

Consult local authorities for acceptable exposure limits.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: nitrile rubber

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: safety glasses with side-shields

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: lab coat

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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9 . Physical and chemical properties

Physical state	:	Solid. (Crystals or powder)
Color	:	Colorless.
Odor	:	Odorless.
Molecular weight	:	65.02 g/mole
Molecular formula	:	N3-Na
pH	:	Not available.
Boiling/condensation point	:	Decomposition temperature: 274.85°C (526.7°F)
Melting/freezing point	:	Decomposition temperature: 274.85°C (526.7°F)
Relative density	:	1.85
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Odor threshold	:	Not available.
Evaporation rate	:	Not available.
Solubility	:	Soluble in the following materials: water

10 . Stability and reactivity

Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	:	No specific data.
Materials to avoid	:	Highly reactive or incompatible with the following materials: acids. Reactive or incompatible with the following materials: oxidizing materials. Contact with acids liberates toxic gas.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Conditions of reactivity	:	Highly explosive in the presence of the following materials or conditions: metals. Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Forms explosion sensitive compounds with some metals such as lead, silver, mercury and copper. Heating may cause an explosion.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Test	Route	Species	Result
Sodium Azide	LD50	Dermal	Rat	50 mg/kg
	LD50	Dermal	Rabbit	20 mg/kg
	LD50	Intratracheal	Rat	47.5 mg/kg
	LD50	Intratracheal	Rat	47500 ug/kg
	LD50	Oral	Mouse	27 mg/kg
	LD50	Oral	Rat	27 mg/kg
	LD50	Subcutaneous	Rat	45100 ug/kg
	LD50	Subcutaneous	Rat	45 mg/kg
	LDLo	Oral	Woman	14 mg/kg
	LDLo	Oral	Man	29 mg/kg
	LDLo	Intraperitoneal	Rat	3 mg/kg

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11 . Toxicological information

	LDLo Intraperitoneal	Rat	30 mg/kg
	LDLo Oral	Man	129 mg/kg

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Sodium Azide	A4	-	-	-	-	-

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

12 . Ecological information

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Sodium Azide	Acute EC50 6.4 to 8.9 mg/L Fresh water	Crustaceans - Water flea - Simocephalus serrulatus - LARVAE	48 hours
	Acute EC50 4.2 to 6.2 mg/L Fresh water	Daphnia - Water flea - Daphnia pulex - LARVAE	48 hours
	Acute EC50 4.2 mg/L	Daphnia	48 hours
	Acute LC50 2.84 mg/L	Fish	96 hours
	Acute LC50 2.75 mg/L	Fish	96 hours
	Acute LC50 0.8 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.4 g	96 hours
	Acute LC50 0.7 mg/L	Fish	96 hours
	Acute LC50 0.68 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.6 g	96 hours
	Acute LC50 2840 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 7.87 cm - 6.07 g	96 hours
	Acute LC50 2750 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 7.32 cm - 4.76 g	96 hours
	Acute LC50 5460 to 5870 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 30 days - 18.8 mm - 0.098 g	96 hours
	Acute LC50 3920 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 8.57 cm - 7.84 g	96 hours

Environmental effects : No known significant effects or critical hazards.

Other adverse effects : No known significant effects or critical hazards.

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13 . Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1687	SODIUM AZIDE	6.1	II		**Reportable quantity** 1000 lbs. (454 kg)

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Highly toxic material
Irritating material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b):** This material is listed or exempted.

TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.

SARA 302/304/311/312 extremely hazardous substances: Sodium Azide
SARA 302/304 emergency planning and notification: Sodium Azide
SARA 302/304/311/312 hazardous chemicals: Sodium Azide
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Azide : Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting requirements	:	Sodium Azide	26628-22-8	100
Supplier notification	:	Sodium Azide	26628-22-8	100

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

Massachusetts Substances : This material is listed.

New Jersey Hazardous Substances : This material is listed.

New York Acutely Hazardous Substances : This material is listed.

Pennsylvania RTK Hazardous Substances : This material is listed.

Canada

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15 . Regulatory information

WHMIS (Canada) : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists : **CEPA Toxic substances:** This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

CEPA DSL / CEPA NDSL : This material is listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

EU regulations

Hazard symbol or symbols :

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.

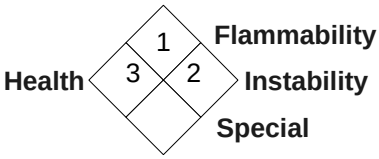
Safety phrases : S1/2- Keep locked up and out of the reach of children.
S28- After contact with skin, wash immediately with plenty of [***].
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60- This material and its container must be disposed of as hazardous waste.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

International regulations

International lists : **Australia inventory (AICS):** This material is listed or exempted.
China inventory (IECSC): This material is listed or exempted.
Japan inventory (ENCS): This material is listed or exempted.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): This material is listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted.
Philippines inventory (PICCS): This material is listed or exempted.

16 . Other information

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



Notice to reader

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