



Material Safety Data Sheet

NFPA 	HMIS <table border="1" style="margin: auto;"> <tr><td style="background-color: #00FFFF;">Health Hazard</td><td style="text-align: center; border: 1px solid black;">3</td></tr> <tr><td style="background-color: #FFC0CB;">Fire Hazard</td><td style="text-align: center; border: 1px solid black;">1</td></tr> <tr><td style="background-color: #FFFF00;">Reactivity</td><td style="text-align: center; border: 1px solid black;">0</td></tr> </table>	Health Hazard	3	Fire Hazard	1	Reactivity	0	Personal Protective Equipment  See Section 15.
Health Hazard	3							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
Common Name/Trade Name	Arsenic	Catalog Number(s). A1335
		CAS# 7440-38-2
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS CG0525000
		TSCA TSCA 8(b) inventory: Arsenic
Commercial Name(s)	Not available.	CI# Not applicable.
Synonym	Arsenic Black; Arsenicals; Grey Arsenic; Metallic arsenic	<u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000
Chemical Name	Arsenic	
Chemical Family	Element. (Inert material.)	
Chemical Formula	As	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	
1) Arsenic	7440-38-2	0.01			100
Toxicological Data on Ingredients					
Arsenic: ORAL (LD50): Acute: 763 mg/kg [Rat]. 145 mg/kg [Mouse].					

Section 3. Hazards Identification	
Potential Acute Health Effects	Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant).
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, the nervous system, liver, heart, bone marrow. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	Some metallic oxides.
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of open flames and sparks, of heat, of oxidizing materials, of acids.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	On contact, arsenic reacts with incandescence with bromine trifluoride (BrF ₃), chromium trioxide (CrO ₃), iodine pentafluoride (IF ₅), nitrosyl fluoride (FNO), and potassium dioxide (KO ₂). Platinum and arsenic will react on heating and become vividly incandescent. Palladium or zinc and arsenic will react on heating with evolution of light and heat. Finely powdered arsenic inflames in gaseous chlorine. A finely divided mixture of arsenic and silver nitrate (AgNO ₃), with excess nitrate ignited when shaken onto paper. Arsenic reacts violently with ignition with bromine pentafluoride (BrF ₅) and with chlorine trifluoride (ClF ₃) at ambient or slightly elevated temperatures.
Special Remarks on Explosion Hazards	Arsenic explodes on contact with bromine azide (BrN ₃) and dichlorine oxide (Cl ₂ O); arsenic explodes on grinding in a mortar with solid potassium permanganate (KMnO ₄); arsenic forms an explosive mixture with sodium peroxide (Na ₂ O ₂). Arsenic will initiate a violent and often explosive decomposition of nitrogen trichloride (NCl ₃).

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 0.01 (mg/m ³) from OSHA (PEL) [United States] TWA: 0.01 (mg/m ³) from ACGIH (TLV) [United States] CEIL: 0.002 (mg/m ³) from NIOSH [United States] TWA: 0.1 (mg/m ³) [United Kingdom (UK)] TWA: 0.01 (mg/m ³) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Lumps. Crystalline solid.)	Odor	Odorless.
Molecular Weight	74.92 g/mole	Taste	Tasteless.
pH (1% soln/water)	Not applicable.	Color	Silvery. Silvery-gray
Boiling Point	Not available.		
Melting Point	Sublimation temperature: 615°C (1139°F)		
Critical Temperature	1399.8°C (2551.6°F)		
Specific Gravity	5.73 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Insoluble in cold water, hot water. Insoluble in caustic and nonoxidizing acids.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials
Incompatibility with various substances	Reactive with oxidizing agents, acids.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Incompatible with bromates (barium bromate, calcium bromate, magnesium bromate, sodium bromate, zinc bromate), chlorates (barium chlorate, calcium chlorate, magnesium chlorate, potassium chlorate, sodium chlorate, zinc chlorate), iodates (barium iodate, calcium iodate, magnesium iodate, potassium iodate, sodium iodate, zinc iodate), bromine pentafluoride, bromine trifluoride, cesium acetylene carbide, chlorine, chlorine monoxide, chromium trioxide, fluorine, hypochlorous acid, iodine pentafluoride, nitrogen tribromide, nitrogen trichloride, potassium nitrate, potassium permanganate, potassium peroxide, rubidium carbide, rubidium acetylene carbide, silver nitrate sodium peroxide. When heated, or on contact with acid or acid fumes, arsenic emits highly toxic fumes. Inorganic arsenic can react with hydrogen gas to produce highly toxic arsine gas.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 145 mg/kg [Mouse].
Chronic Effects on Humans	CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC. May cause damage to the following organs: blood, the nervous system, liver, heart, bone marrow.
Other Toxic Effects on Humans	Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. May be absorbed through intact skin and cause system effects. Eyes: May cause eye irritation. Inhalation: Can cause respiratory tract irritation with cough, breathing difficulty, chest pain. May cause damage to respiratory tract. Ingestion: Can cause severe gastrointestinal tract damage, including vomiting, diarrhea, and shock. Can also cause alopecia, burning lips, garlic odor of breath, facial swelling, throat constriction and dysphagia, intense thirst, muscle cramps, cardiac abnormalities, bone marrow suppression, anemia, decreased white blood cell count, kidney failure, enlargement of liver, progressive hypotension, refractory ventricular fibrillation, irreversible cardiac arrest. Also affects nervous system involving both sensory and motor peripheral polyneuropathies. Neurological symptoms can include headache, lethargy, mental confusion, hallucinations, emotional lability, memory loss, delirium, seizures, stupors, convulsions, coma. Chronic Potential Health Effects: Ingestion: Can cause hyperpigmentation of skin, particularly on palms of skin and hands and soles of feet, gangrene, anemia, cirrhosis of liver. Inhalation: Can cause perforation of the nasal septum. Similar systemic effects can occur with chronic arsenic poisoning, via inhalation or ingestion. Chronic (systemic)arsenic poisoning may also occur if it is absorbed through the skin. The major target organs for arsenic toxicity are the nerves, heart, blood/bone marrow, and liver. Nervous damage can be both central (encephalopathy) and peripheral (peripheral polyneuropathy). Early symptoms of peripheral nerve damage include pain, numbness, tingling, a pins-and-needles sensation in the extremities, loss of touch sensation, foot or wrist drop, and muscle cramps. Effects on the heart include ECG

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abnormalities and fibrillation. Arsenic can depress formation of all the blood elements in the bone marrow, causing aplastic anemia. Both cirrhosis and cancer of the liver have been reported with chronic arsenic exposure.


Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification	CLASS 6.1: Poisonous material.
Identification	UNNA: 1558 : Arsenic PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Arsenic</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Arsenic</p> <p>New York release reporting list: Arsenic</p> <p>Pennsylvania RTK: Arsenic</p> <p>Minnesota: Arsenic</p> <p>Michigan critical material: Arsenic</p> <p>Massachusetts RTK: Arsenic</p> <p>Massachusetts spill list: Arsenic</p> <p>New Jersey: Arsenic</p> <p>New Jersey spill list: Arsenic</p> <p>Louisiana spill reporting: Arsenic</p> <p>California Director's List of Hazardous Substances: Arsenic</p> <p>TSCA 8(b) inventory: Arsenic</p> <p>SARA 313 toxic chemical notification and release reporting: Arsenic</p> <p>CERCLA: Hazardous substances.: Arsenic: 1 lbs. (0.4536 kg)</p>
California Proposition 65 Warnings	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Arsenic</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.</p>
Other Regulations	

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 231-148-6).
 Canada: Listed on Canadian Domestic Substance List (DSL).
 China: Listed on National Inventory.
 Japan: Not listed on National Inventory (ENCS).
 Korea: Listed on National Inventory (KECI).
 Philippines: Listed on National Inventory (PICCS).
 Australia: Listed on AICS.

Other Classifications

WHMIS (Canada) CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
 CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC) R23/25- Toxic by inhalation and if swallowed.
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S28- 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 its container must be disposed of as hazardous waste.
 S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	1
Reactivity	0
Personal Protection	E

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

Health  Flammability
 Reactivity
 Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)



Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Safety glasses.

**Section 16. Other Information****MSDS Code** A5860**References** Not available.**Other Special Considerations** Major Uses: Alloying constituent; component of electrical devices; in metallurgy for hardening copper, lead, nonferrous alloys, automotive body solder, in semiconductor materials, in manufacturer of low-melting glass; herbicide; pesticide; radioactive tracer; catalyst in manufacturer of chemicals.

Validated by Sonia Owen on 5/11/2012.

Verified by Sonia Owen.
Printed 5/11/2012.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.