

**MSDS (Material Safety Data Sheet)
Galena Solution - C1114**

1		Product Identification	
	1	Manufacturer:	
		1 Name:	Angelgilding.com
		2 Street Address:	619 S. Clarence Ave
		3 City, State, and Zip:	Oak Park, IL 60304-1303
		4 24-hour Emergency Number	(708) 383-3340
	2	Product Code(s):	Galena Solution - C1114
	3	Preparer:	
		1 Name:	M. G. King
		2 Phone Number:	(708) 383-3340
		3 Revision Information:	5/27/2008
2		Composition/Information on Ingredients	
	Per Ingredient:		
		1 Synonyms:	LEAD(II) nitrate
		2 CAS Id:	10099-74-8
		3 Formula:	Pb (NO ₃) ₂
		4 Formula Weight:	331.23
		5 Percent:	4
		6 Hazardous:	
3		Hazards Identification	
	1	Overview:	POISON! DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. NEUROTOXIN. AFFECTS THE GUM TISSUE, CENTRAL NERVOUS SYSTEM, KIDNEYS, BLOOD AND REPRODUCTIVE SYSTEM.
	2	SAF-T-DATA Ratings:	
		1 Health Rating:	3 - Severe (Poison)
		2 Flammability Rating:	0 - None
		3 Reactivity Rating:	3 - Severe (Oxidizer)
		4 Contact Rating:	2 - Moderate (Life)
		5 Protective Equipment:	GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
		6 Storage Color Code:	Yellow (Reactive)
	3	Potential Health Effects:	
		1 Inhalation:	Lead can be absorbed through the respiratory system. Local irritation of bronchia and lungs can occur and, in cases of acute exposure, symptoms such as metallic taste, chest and abdominal pain, and increased lead blood levels may follow. See also Ingestion.
		2 Ingestion:	POISON! The symptoms of lead poisoning include abdominal pain and spasms, nausea, vomiting, headache. Acute poisoning can lead to muscle weakness, "lead line" on the gums, metallic taste, definite loss of appetite, insomnia, dizziness, high lead levels in blood and urine with shock, coma and death in extreme cases. Nitrates entering the body by any route (ingestion, inhalation, or absorption), can cause headache vomiting, dizziness, cyanosis, decreased blood pressure, and possibly respiratory paralysis.

**MSDS (Material Safety Data Sheet)
Galena Solution - C1114**

		3	Skin Contact:	Lead and lead compounds may be absorbed through the skin on prolonged exposure; the symptoms of lead poisoning described for ingestion exposure may occur. Contact over short periods may cause local irritation, redness and pain.
		4	Eye Contact:	bsorption can occur through eye tissues but the more common hazards are local irritation or abrasion.
		5	Chronic Exposure:	Lead is a cumulative poison and exposure even to small amounts can raise the body's content to toxic levels. The symptoms of chronic exposure are like those of ingestion poisoning; restlessness, irritability, visual disturbances, hypertension and gray facial color may also be noted.
		6	Aggravation of Pre-existing Conditions:	Persons with pre-existing kidney, nerve or circulatory disorders or with skin or eye problems may be more susceptible to the effects of this substance.
4			First Aid Measures	
	1		Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
	2		Ingestion:	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
	3		Skin Contact:	Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
	4		Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
	5		Note to Physician:	
5			Fire Fighting Measures:	
	1		Fire:	Not combustible but is a hazardous oxidizing material. In contact with easily oxidizable substances may cause ignition, violent combustion or explosion. Increases the flammability of combustible materials.
	2		Explosion:	Strong oxidants may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions.
	3		Fire Extinguishing Media:	Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways.
	4		Special Information:	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Lead nitrate can decompose to form toxic oxides of nitrogen and lead in fire situations.
6			Accidental Release Measures:	Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

MSDS (Material Safety Data Sheet)
Galena Solution - C1114

7		Handling and Storage:	Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Isolate from incompatible substances. Areas in which exposure to lead metal or lead compounds may occur should be identified by signs or appropriate means, and access to the area should be limited to authorized persons. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
8		Exposure Controls/Personal Protection:	Eating, drinking, and smoking should not be permitted in areas where solids or liquids containing lead compounds are handled, processed, or stored. See OSHA substance-specific standard for more information on personal protective equipment, engineering and work practice controls, medical surveillance, record keeping, and reporting requirements. (29 CFR 1910.1025).
	1	Airborne Exposure Limits:	
		1 OSHA PEL:	
		Dust	0.05 mg/m ³ (TWA)
		2 ACGIH TLV:	0.05 mg/m ³ (TWA), A3 animal carcinogen ACGIH Biological Exposure Indices (BEI): 30 ug/100ml, notation B (see actual Indices for more information). NIOSH Recommended Exposure Limit (REL): 0.1 mg/m ³ (TWA)
	2	Ventilation System:	A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
	3	Personal Respirators (NIOSH Approved):	If the exposure limit is exceeded and engineering controls are not feasible, a half-face high efficiency particulate respirator (NIOSH type N100 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency particulate respirator (NIOSH type N100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
	4	Skin Protection:	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**MSDS (Material Safety Data Sheet)
Galena Solution - C1114**

	5	Eye Protection:	Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.
9		Physical and Chemical Properties:	
	1	Appearance:	Clear, colorless solution
	2	Odor:	
	3	Solubility in water:	Complete
	4	Density (g cm-3):	1
	5	pH:	4-Jan
	6	% Volatiles by volume @ 21C (70F):	
	7	Boiling Point: °C	100
	8	Melting Point (°C):	0
	9	Vapor Density (Air=1):	
	10	Vapor Pressure (mm Hg):	
	11	Evaporation Rate (BuAc=1):	
10		Stability and Reactivity:	
	1	Stability:	Stable under ordinary conditions of use and storage.
	2	Hazardous Decomposition Products:	Toxic metal fumes may form when heated to decomposition.
	3	Hazardous Polymerization:	
	4	Incompatibilities:	Ammonium thiocyanate, powdered carbon, lead hypophosphite, hydrogen peroxide, combustibles and organic materials.
	5	Conditions to Avoid:	Heat, flames, ignition sources and incompatibles.
11		Toxicological Information:	Lead and other smelter emissions are human reproductive hazards. (Chemical Council on Environmental Quality; Chemical Hazards to Human Reproduction, 1981).
	1	Oral rat LD50:	
	2	Tumorigen:	Investigated
	3	Mutagen:	Investigated
	4	Reproductive effector:	Investigated
	5	Carcinogenicity:	For lead and inorganic lead compounds: EPA / IRIS classification: Group B2 - Probable human carcinogen, sufficient animal evidence.
	6	IARC Category:	
	7	Skin rabbit:	
	8	Eye rabbit:	
	9	Inhalation rat LC50	
12		Ecological Information	
	1	Environmental Fate:	For lead and inorganic lead compounds: When released into the soil, this material is not expected to leach into groundwater. This material may bioaccumulate to some extent.
	2	Environmental Toxicity:	

MSDS (Material Safety Data Sheet)
Galena Solution - C1114

13		Disposal Considerations:	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
14		Transport Information:	
	1	Domestic (Land, D.O.T.):	
		1 Proper Shipping Name:	RQ, LEAD NITRATE SOLUTION
		2 Hazard Class:	5.1, 6.1
		3 UN/NA:	UN1469
		4 Packing Group:	II
		5 Information reported for product/size:	100 kg
	2	International (Water, I.M.O.):	
		1 Proper Shipping Name:	LEAD NITRATE SOLUTION
		2 Hazard Class:	5.1, 6.1
		3 UN/NA:	UN1469
		4 Packing Group:	II
		5 Information reported for product/size:	100 kg
	3	International (Air, I.C.A.O.):	
		1 Proper Shipping Name:	
		2 Hazard Class:	
		3 UN/NA:	
		4 Packing Group:	
		5 Information reported for product/size:	
15		Regulatory Information:	
	1	TSCA:	Y
	2	EC:	Y
	3	Japan:	Y
	4	Australia:	Y
	5	Korea:	Y
	6	Canada	Y
	7	Chemical Weapons Convention:	N
	8	Known to the State of California to cause cancer (Y/N):	Y
	9	Australian Hazchem Code:	2Y
	10	Poison Schedule:	S6
	11	Controlled Products Regulations:	
16		Other Information	
	1	NFPA Ratings:	
		1 Health:	3
		2 Flammability:	0

**MSDS (Material Safety Data Sheet)
Galena Solution - C1114**

	3	Reactivity:	1
	2	Label Hazard Warning:	POISON! DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. NEUROTOXIN. AFFECTS THE GUM TISSUE, CENTRAL NERVOUS SYSTEM, KIDNEYS, BLOOD AND REPRODUCTIVE SYSTEM.
	3	Label Precautions:	Keep from contact with clothing and other combustible materials. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Keep container closed. Do not store near combustible materials. Store in a tightly closed container. Wash thoroughly after handling.
	4	Label First Aid:	If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.
	5	Product Use:	Commercial mirroring
	6	Disclaimer:	
<p>Angelgilding.com provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Angelgilding.com. makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Angelgilding.com will not be responsible for damages resulting from use of or reliance upon this information.</p>			