



## THE DANGER OF SILVER NITRATE

### Introduction:

Silver-peroxide is made with **silver-nitrate** and not as often claimed by its manufacturer's with colloidal silver. There is a significant difference between the two.

For example: silver nitrate is a chemical compound with chemical formula  $\text{AgNO}_3$ .

Colloidal silver is not a compound, it's an element, a liquid suspension of microscopic particles of silver.

**There have been no long term studies done in the human body regarding the safety of silver.**

Silver nitrate is toxic and corrosive. Little exposure to the chemical will not produce immediate or even any side effects other than the purple skin stains, but with more exposure, side effects will become more noticeable. It is very poisonous and can cause burns. Long-term exposure can cause permanent blue-grey staining of eyes, mouth, throat and skin, (argyria) and may cause eye damage. Short contact can lead to deposition of black silver stains on the skin. Besides being very destructive of mucous membranes, it is a skin and eye irritant.

Silver compounds, such as silver acetate, silver nitrate, silver arsphenamine, can be extremely toxic in the human body due to the extremely high concentration of silver. All silver compounds used, for a variety of reasons, place a user at risk for argyria.

The risks associated with use of high PPM silver compounds have been very well documented. Most compounds available today contain an extraordinary amount of actual silver content (as measured in grams or micrograms).

A daily dose of 50 ppm to 200 ppm can lead to a silver overdose. However some people are more susceptible than others.

### Health effects of silver

Soluble silver salts, specially silver nitrate, are lethal in concentrations of up to 2g (0.070 oz). Silver compounds can be slowly absorbed by body tissues, with the consequent bluish or blackish skin pigmentation (argyria).

Eye contact: may cause severe corneal injury if liquid comes in contact with the eyes.

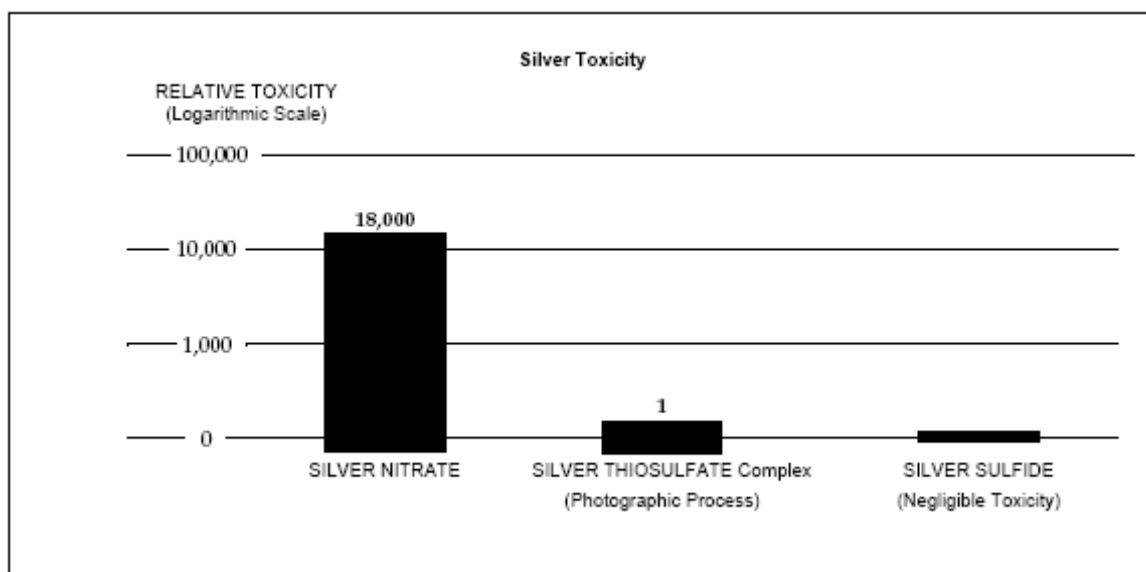
Skin contact: may cause skin irritation. Repeated and prolonged contact with skin may cause allergic dermatitis.

Inhalation hazards: exposure to high concentrations of vapours may cause dizziness, breathing difficulty, headaches or respiratory irritation. Extremely high concentrations may cause drowsiness, staggering, confusion, unconsciousness, coma or death.

Liquid or vapour contact: may be irritating to skin, eyes, throat, or lungs. Intentional misuse by deliberately concentrating and inhaling the contents of this product can be harmful or fatal. Aspiration of material into lungs if swallowed or if vomiting occurs can cause chemical pneumonitis which can be fatal.

Ingestion hazards: moderately toxic. May cause stomach discomfort, nausea, vomiting, diarrhoea, and narcosis.





For further information of the effects of silver please visit the following websites:

<http://www.inchem.org/documents/cicads/cicads/cicad44.htm>

<http://www.cqs.com/silver.htm>

<http://cat.inist.fr/?aModele=afficheN&cpsidt=2765166>

### **Silver has no purpose in the human body**

Silver is not used in any known physiological process in the human body. It is treated by the body as a toxic heavy metal, chelated and removed extremely slowly by proteins called metallothioneins. This removal process can easily be overwhelmed, leading to argyria. Silver has an affinity to cell membranes, including those of nerve cells, where it deposits permanently as silver sulfide. This is a typical pattern of heavy metal toxicity.

### **Silver causes immune dysfunction**


When the human immune and detoxification system encounters a heavy metal such as silver, it goes into overdrive in its attempt to detoxify and remove it, as described above. Glutathione, the primary detoxifying antioxidant, is utilized in this process. If the person has a chronic illness such as hepatitis C, the glutathione that had been utilized in detoxifying viral free radical toxins and killing viruses is now siphoned off into silver detoxification. The result could be a sudden progression of the disease, the exact opposite of what the silver proponents claim.

## **U.S. National Toxicology Program acute toxicity studies for Silver nitrate**

CAS Number: 7761-88-8 Use Type: Microbiocide, Fungicide, Herbicide, Plant Growth Regulator Chem Class: Inorganic-Silver, Heavy metal

**Note:** The NTP Summary rankings were calculated using only oral, dermal and inhalation studies for all mammals that are reasonable analogs for humans.

<b><u>Study Type</u></b>	<b><u>Route</u></b>	<b><u>Species</u></b>	<b><u>Result</u></b>	<b><u>Units</u></b>
LD50	intraperitoneal	mouse	22.0	mg/kg
LD50	Oral	mouse	50.0	mg/kg
LDLo	intraperitoneal	guinea pig	216.0	mg/kg
LDLo	intravenous	rabbit	9.00	mg/kg
LDLo	Oral	Dog	20.0	mg/kg
LDLo	Oral	rabbit	800.0	mg/kg
LDLo	subcutaneous	guinea pig	62.0	mg/kg
LDLo	unknown	man	29.0	mg/kg

<b>SILVER NITRATE</b>			<b>ICSC: 1116</b>
CAS #	7761-88-8	AgNO <sub>3</sub>	
RTECS #	VW4725000	Molecular mass: 169.89	
UN #	1493		
EC #	047-001-00-2		
TYPES OF HAZARD / EXPOSURE	ACUTE HAZARDS / SYMPTOMS	PREVENTION	FIRST AID / FIRE FIGHTING
<b>FIRE</b>	Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.	NO contact with flammable substances.	Water in large amounts. In case of fire in the surroundings: all extinguishing agents allowed.
<b>EXPLOSION</b>			In case of fire: keep drums, etc., cool by spraying with water.
<b>EXPOSURE</b>		Prevent dispersion of dust! Strict hygiene!	
<b>Inhalation</b>	Sore throat. Cough. Burning sensation. Shortness of breath. Laboured breathing. Blue lips or finger nails. Blue skin. Dizziness. Headache. Nausea. Confusion. Convulsions. Unconsciousness. Symptoms may be delayed (see Notes).	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
<b>Skin</b>	Pain. Redness. Skin burns. Blisters. (Further see Inhalation).	Protective gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
<b>Eyes</b>	Redness. Pain. Severe deep burns. Loss of vision.	Face shield, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Abdominal pain. Burning sensation. Shock or collapse. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
<b>SPILLAGE DISPOSAL</b>		<b>PACKAGING &amp; LABELLING</b>	
Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents. Do NOT let this chemical enter the environment. Personal protection: complete protective clothing including self-contained breathing apparatus.		<b>EU Classification</b> Symbol: C, N R: 34-50/53 S: (1/2-)-26-45-60-61 <b>UN Classification</b> UN Hazard Class: 5.1 UN Pack Group: II	
<b>EMERGENCY RESPONSE</b>		<b>SAFE STORAGE</b>	
Transport Emergency Card: TEC (R)-51GO2-I+II+III NFPA Code: H1; F0; R0; OX		Separated from combustible and reducing substances. See Chemical Dangers. Keep in the dark. Well closed.	

SILVER NITRATE		ICSC: 1116
<b>IMPORTANT DATA</b>		
<b>PHYSICAL STATE; APPEARANCE:</b> ODOURLESS, COLOURLESS OR WHITE CRYSTALS.	<b>ROUTES OF EXPOSURE:</b> The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.	
<b>CHEMICAL DANGERS:</b> The substance decomposes on heating producing toxic fumes including nitrogen oxides. The substance is a strong oxidant and reacts violently with combustible and reducing materials. Reacts with incompatible substances such as acetylene, alkalis, halides and many other compounds causing fire and explosion hazard. Attacks some forms of plastics, rubber and coatings.	<b>INHALATION RISK:</b> Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.	
<b>OCCUPATIONAL EXPOSURE LIMITS:</b> TLV: (as Ag) 0.01 mg/m <sup>3</sup> as TWA; (ACGIH 2004). MAK: (Inhalable fraction) 0.01 mg/m <sup>3</sup> ; Peak limitation category: I(2); Pregnancy risk group: IIc; (DFG 2004).	<b>EFFECTS OF SHORT-TERM EXPOSURE:</b> The substance is corrosive to the eyes, the skin and the respiratory tract. Corrosive on ingestion. The substance may cause effects on the blood, resulting in formation of methaemoglobin. The effects may be delayed. Medical observation is indicated.	
	<b>EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:</b> The substance may have effects on the blood, resulting in formation of methaemoglobin. Inhalation or ingestion can lead to generalized argyria, grey discolouration of the eyes and the skin and brown fingernails.	
<b>PHYSICAL PROPERTIES</b>		
Decomposes below boiling point at 444°C Melting point: 212°C Solubility in water: very good		
<b>ENVIRONMENTAL DATA</b>		
The substance is very toxic to aquatic organisms.		
<b>NOTES</b>		
Depending on the degree of exposure, periodic medical examination is suggested. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Rinse contaminated clothes (fire hazard) with plenty of water. Card has been partly updated in October 2004. See sections Occupational Exposure Limits, EU classification, Emergency Response.		
<i>The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we do not guarantee any results, and we are not liable for any damage incurred by following these suggestions. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.</i>		