

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Zenker's Fixative
SYNONYMS: Zenkers solution, Zenker's fixative solution
CATALOG CODES: VZF
MANUFACTURER: Volu-Sol
ADDRESS: 5095 West 2100 South
 Salt Lake City, UT 84120
EMERGENCY PHONE: (800) 535-5053
OTHER CALLS: (801) 974-9474
FAX: (801) 974-9553
CHEMICAL FAMILY: -
CHEMICAL FORMULA: -
PREPARED BY: Volu-Sol

RECOMMENDED USE: Fixative for animal and vegetable tissues

RESTRICTIONS ON USE: Use as recommended

SECTION 2: HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW:

OSHA Hazards: Target Organ Effect, Highly toxic by ingestion, Highly toxic by skin absorption, Irritant, Corrosive, Teratogen, Mutagen

TARGET ORGANS: Kidney, Nerves, Gastrointestinal tract
GHS Classification: Acute Toxicity, Dermal (Category 1)
 Acute Toxicity, Oral (Category 2)
 Skin Corrosion (Category 1B)
 Serious eye damage (Category 1)
 Reproductive toxicity (Category 2)
 Aquatic Toxicity, Acute (Category 1)
 Aquatic Toxicity, Chronic (Category 1)
 Specific target organ toxicity (Category 1)
 Repeated Exposure

GHS LABEL ELEMENTS:



Pictogram:
Signal Word: Danger

Hazard Statement(s):
 H300+H310 Fatal if swallowed or in contact with skin
 H314 Causes severe skin burns and eye damage
 H361 Suspected of damaging fertility or the unborn child
 H372 Causes damage to organs through prolonged or repeated exposure
 H410 Very toxic to aquatic life with long lasting effects
Precautionary Statement(s):
 P264 Wash hands thoroughly after handling
 P273 Avoid release to the environment
 P280 Wear protective gloves/protective clothing/eye protection/face protection
 P302+P350 IF ON SKIN: Gently wash with plenty of soap and water
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 Immediately call a POISON CENTER or doctor/physician
 P501 Dispose of contents/container to an approved waste disposal plant

OTHER HAZARDS: Repeated exposure may cause skin dryness, cracking, severe irritation or dermatitis. Use of alcoholic beverages enhances toxic effects.

HMIS Classification:
Health hazard: 4
Chronic health hazard: -
Flammability: 0
Physical hazards: 0

NFPA Rating:

WWW.VOLUSOL.COM

Health hazard: 3
Fire: 0
Reactivity Hazard: 0

POTENTIAL HEALTH EFFECTS:

INHALATION: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation

INGESTION: May be fatal if swallowed

SKIN: May be fatal if absorbed through skin. Causes skin burns. Causes skin irritation

EYE: Splashes may cause severe irritation; with stinging, tearing, redness, and pain

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO. EC-NO. Index-NO.
Acetic Acid, Glacial (4-6%)	64-19-7 200-580-7 607-002-00-6
Mercuric Chloride (4-6%)	7487-94-7 231-299-8 080-010-00-X
Potassium Dichromate (2-3%)	7778-50-9 231-906-6 024-002-00-6

SECTION 4: FIRST AID MEASURES

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician

INGESTION: If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Consult a physician

SKIN: Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes, wash before reuse. Consult a physician

EYE: Immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR: Percentage by Volume
 Upper: - %
 Lower: - %

FLASH POINT: -

AUTOIGNITION TEMPERATURE: -

EXTINGUISHING MEDIA: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

FIRE FIGHTING PROCEDURES: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode

FIRE AND EXPLOSION HAZARDS: Use water spray to cool unopened containers. Not considered to be a fire or explosion hazard

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Do not flush to sewer. Absorb with suitable material. Dispose of in accordance with local regulations. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The number to contact the US Coast Guard National Response Center is (800) 424-8802

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product

INCOMPATIBILITIES: -

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS: Reported in a time-weighted average (TWA)

Component	CAS-No.	Reference	OSHA		ACGIH	
			ppm	mg/m ³	ppm	mg/m ³
Zenker's Fixative	-		-	-	-	-
			PEL	PEL	TLV	TLV

VENTILATION SYSTEM: Local and/or general exhaust is recommended to keep exposure below limits. Local exhaust ventilation is preferred for control of the emissions at its source, preventing dispersion into the general work area. Please refer to the ACGIH document, *Industrial Ventilation: A Manual of Recommended Practices*, for details

PERSONAL RESPIRATORS: If exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator 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 organic vapor respirator 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. For emergencies or instances where the exposure levels are not known, use a full-face, positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres

SKIN PROTECTION: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact

EYE PROTECTION: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear, orange, liquid
ODOR: Odorless
SOLUBILITY: Miscible in all proportions in water
pH: -
BOILING POINT: 101°C (213.8°F)
MELTING POINT: -2°C (28.4°F)
VAPOR PRESSURE (kPa): -
SPECIFIC GRAVITY: 1.06
MOLECULAR WEIGHT: -
DENSITY: -
VISCOSITY: -
REFRACTIVE INDEX: -

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended conditions of use and storage

CONDITIONS TO AVOID: Heat, flames, ignition sources and incompatibles

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Poisonous gases, including oxides of Chromium, Mercury, Potassium, Sodium and Sulfur, may be emitted during fire

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:
Acute Toxicity: Oral rat LD50: - mg/kg
 Inhalation rat LC50: - mg/m³
 Dermal LD50: - mg/kg
Skin/Eye Irritation: -
ROUTES OF ENTRY: Inhalation/Ingestion/Skin

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:
Soil Release Material No data available
Air Release Material No data available

ENVIRONMENTAL TOXICITY: Mercury is expected to be very toxic to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in an 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

SECTION 14: TRANSPORT INFORMATION

US DOT	IATA
Shipping Name: Toxic Liquid, Inorganic, n.o.s., (Mercuric Chloride and Potassium Dichromate)	Shipping Name: Toxic Liquid, Inorganic, n.o.s., (Mercuric Chloride and Potassium Dichromate)
Hazard Class: 6.1	Hazard Class: 6.1
UN Number: 3287	UN Number: 3287
Packing Group: II	Packing Group: II

SECTION 15: REGULATORY INFORMATION

SARA 302/313	7487-94-7
OSHA	Target Organ Effect, Highly toxic by ingestion, Highly toxic by skin absorption, Irritant, Corrosive, Teratogen, Mutagen
State	CAS-NO. 7487-94-7, 64-19-7: Right to know lists: California, New Jersey, Florida, Pennsylvania, and Massachusetts
International Regulations	-

SECTION 16: OTHER INFORMATION

Disclaimer: The information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.