

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name 2007ICS-3

Other means of identification
Product Description 20000 µg/mL: K; 1000 µg/mL: As, Pb, Tl; 500 µg/mL: Se; 300 µg/mL: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn; 200 µg/mL: Mn; 100 µg/mL: Be

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory chemicals.

Uses advised against No information available

Details of the supplier of the safety data sheet
Company

 Inorganic Ventures
 300 Technology Drive
 Christiansburg, VA 24073
 Phone: 1(800) 669-6799
 Email: info@inorganicventures.com

Emergency Telephone Number

 Chemtrec 1-800-424-9300 (North America)
 Chemtrec +1 703-741-5970 (International)

2. HAZARDS IDENTIFICATION

GHS
Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1A
Corrosive to metals	Category 1

Label Elements
Danger
Hazard statements

 Harmful if inhaled
 Causes severe skin burns and eye damage
 May cause an allergic skin reaction
 May cause cancer
 May damage fertility or the unborn child
 May be corrosive to metals

**Appearance** clear/ grey**Physical state** Liquid**Odor** Odorless**Precautionary Statements - Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Keep only in original container

Precautionary Statements - Response**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician

Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Immediately call a POISON CENTER or doctor/physician

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Spill

Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store locked up
Store in corrosive resistant container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

• Very toxic to aquatic life with long lasting effects

Other Information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
Nitric acid	7697-37-2	7
Lead nitrate	10099-74-8	0.1599
Thallium(I) nitrate	10102-45-1	0.13039
Beryllium di(acetate)	543-81-7	0.11278
Arsenic	7440-38-2	0.1

4. FIRST AID MEASURES**Description of first aid measures**

General Advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Eye Contact	Immediate medical attention is required. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
Skin Contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Call a physician or poison control center immediately. Remove to fresh air. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	Burn. Difficulty in breathing.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

Special Exposure Hazards Arising from the Substance/Mixture

The product causes burns of eyes, skin and mucous membranes Thermal decomposition can lead to release of irritating gases and

vapors

Explosion Data**Sensitivity to Mechanical Impact** None.**Sensitivity to Static Discharge** None.**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment as required. Do not get in eyes, on skin, or on clothing.

Environmental precautions**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage. Dispose of contents/container to an approved waste disposal plant.

Methods and material for containment and cleaning up**Methods for Cleaning up**

Dam up. Neutralise with lime milk; soda. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling**Handling**

Wear personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric acid 7697-37-2	TWA: 2 ppm STEL: 4 ppm	TWA: 2 ppm TWA: 5 mg/m ³ (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m ³ (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m ³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³
Lead nitrate 10099-74-8	TWA: 0.05 mg/m ³ Pb	TWA: 50 µg/m ³	IDLH: 100 mg/m ³ TWA: 0.050 mg/m ³
Thallium(I) nitrate 10102-45-1	TWA: 0.02 mg/m ³ TI inhalable particulate matter Sk*	TWA: 0.1 mg/m ³ Skin	IDLH: 15 mg/m ³ TWA: 0.1 mg/m ³
Beryllium di(acetate)	TWA: 0.00005 mg/m ³ Be inhalable	TWA: 0.2 µg/m ³	IDLH: 4 mg/m ³

543-81-7	particulate matter	(vacated) TWA: 2 µg/m ³ (vacated) STEL: 25 µg/m ³ Ceiling: 2 µg/m ³	Ceiling: 0.0005 mg/m ³
Arsenic 7440-38-2	TWA: 0.01 mg/m ³	(vacated) TWA: 0.5 mg/m ³	IDLH: 5 mg/m ³ Ceiling: 0.002 mg/m ³

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye Protection Tightly fitting safety goggles Face-shield
Skin and Body Protection Impervious clothing Boots Chemical resistant apron
Hand Protection Impervious gloves
Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn
Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Appearance	clear/ grey
Odor	Odorless
pH - VALUE 1	No data available
Melting point / melting range	No data available
Initial boiling point and boiling range	100 °C / 212 °F
Literary reference	
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapor pressure @20 °C (kPa)	No data available
Relative vapor density	No data available
Relative Density	No data available
Specific gravity - VALUE 1	No data available
Water solubility	Miscible
Literary reference	
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity - VALUE 1	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available
VOC content	No information available

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

None under normal processing.

Conditions to Avoid

None known.

Incompatible materials

Bases Cyanides

Hazardous decomposition products

Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

The product causes burns of eyes, skin and mucous membranes

Inhalation

Causes burns. Corrosive to respiratory system. Inhaled corrosive substances can lead to a toxic edema of the lungs. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. Aspiration may cause pulmonary edema and pneumonitis. Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

Eye Contact

Causes burns. Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

Skin Contact

Causes burns. Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

Ingestion

Can burn mouth, throat, and stomach. Ingestion of soluble silver salts may cause argyria, characterized by permanent blue-gray pigmentation of the skin, mucous membranes, and eyes.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric acid - 7697-37-2	-	-	= 2500 ppm (Rat) 1 h
Lead nitrate - 10099-74-8	= 93 mg/kg (Rat)	-	-
Arsenic - 7440-38-2	= 15 mg/kg (Rat)	-	-

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

No information available.

Mutagenic Effects

No information available.

Carcinogenic effects

Chemical name	ACGIH	IARC	NTP	OSHA
Nitric acid 7697-37-2		Group 1 Group 2A		X
Lead nitrate	A3	Group 2A	Reasonably Anticipated	X

10099-74-8				
Thallium(I) nitrate 10102-45-1		Group 2A		X
Beryllium di(acetate) 543-81-7	A1	Group 1	Known	X
Arsenic 7440-38-2	A1	Group 1	Known	X

Reproductive Toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

May cause disorder and damage to the. blood. Nervous system. lungs. Respiratory system.

Target organ effects

Skin, Eyes, Respiratory system.

Neurological Effects

Prolonged or excessive exposure to manganese in dust or fumes may cause irreversible central nervous system damage (Manganism). Symptoms resemble Parkinson's disease and include tremors, impaired speech, mask-like face, and impaired movement.

Aspiration hazard

No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 58211 mg/kg

ATEmix (inhalation-dust/mist) 4.2 mg/l

ATEmix (inhalation-vapor) 46 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity****Ecotoxicity effects**

Contains 0 % of components with unknown hazards to the aquatic environment

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Chemical name	Partition coefficient
Nitric acid 7697-37-2	-2.3

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Waste from Residues/Unused Products**

Dispose of in accordance with federal, state and local regulations

Contaminated Packaging

Do not reuse empty containers.

Chemical name	California Hazardous Waste Status
Nitric acid 7697-37-2	Toxic Corrosive Ignitable
Lead nitrate 10099-74-8	Toxic Ignitable
Thallium(I) nitrate 10102-45-1	Toxic
Beryllium di(acetate) 543-81-7	Toxic

Arsenic 7440-38-2	Toxic
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14. TRANSPORT INFORMATION

IMDG

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Marine Pollutant	None
14.6. Special Provisions	None
No information available in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

RID

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

ADR

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

ICAO

14.1. UN-No	UN3264
14.2. Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Hazard Class	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

IATA-DGR

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
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DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AIIC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Nitric acid - 7697-37-2	7697-37-2	7	1.0
Lead nitrate - 10099-74-8	10099-74-8	0.1599	0.1 1.0
Thallium(I) nitrate - 10102-45-1	10102-45-1	0.13039	1.0
Beryllium di(acetate) - 543-81-7	543-81-7	0.11278	0.1
Arsenic - 7440-38-2	7440-38-2	0.1	0.1

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	Not classified
Fire hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nitric acid 7697-37-2	1000 lb			X
Lead nitrate 10099-74-8	10 lb	X		X
Thallium(I) nitrate 10102-45-1		X		
Beryllium di(acetate) 543-81-7		X		
Arsenic 7440-38-2		X	X	

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

Lead nitrate 10099-74-8	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ
Thallium(I) nitrate 10102-45-1	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Arsenic 7440-38-2	1 lb		RQ 1 lb final RQ RQ 0.454 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Lead nitrate - 10099-74-8	Carcinogen
Beryllium di(acetate) - 543-81-7	Carcinogen
Vanadium pentoxide - 1314-62-1	Carcinogen
Nickel - 7440-02-0	Carcinogen
Cadmium and compounds (as Cd) - 7440-43-9	Carcinogen Developmental Male Reproductive
Cobalt - 7440-48-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Nitric acid 7697-37-2	X	X	X
Lead nitrate 10099-74-8	X	X	X
Thallium(I) nitrate 10102-45-1	X	X	X
Beryllium di(acetate) 543-81-7	X		X
Arsenic 7440-38-2	X	X	X

U.S. EPA Label Information

16. OTHER INFORMATION

Revision Date 24-Sep-2025

Revision Note

No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS