

SAFETY DATA SHEET

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

Product identifier
Product Name PE-CHK-1

Other means of identification
Product Description 10 µg/mL ea: Ag, Al, As, Ba, Be, Cd, Co, Cr3, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn

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
web: www.inorganicventures.com

Emergency telephone number
Emergency Telephone Number

Chemtrec 1-800-424-9300 (North America)

Chemtrec +1 703-741-5970 (International)

2. HAZARDS IDENTIFICATION

GHS

Classification

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Label Elements
Danger
Hazard statements

Causes severe skin burns and eye damage


Appearance clear / colorless

Physical state Liquid

Odor Odorless

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

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

Inhalation

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

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

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	5

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

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. Do not allow into any sewer, on the ground or into any body of water. Prevent entry into waterways, sewers, basements or confined areas. Should not be released into the environment. 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	4 ppm STEL TWA: 2 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

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**Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	clear / colorless
Odor	Odorless
Property	Values
pH - VALUE 1	No data available
Melting point / melting range	No data available
Boiling point / boiling range	100 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapor pressure @20 °C (kPa)	No data available
Vapor density	No data available
Relative Density	No data available
Specific gravity - VALUE 1	No data available
Water solubility	Miscible
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
Other information	
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

Hazardous polymerization does not occur.

Conditions to Avoid

None known.

Incompatible materials

Reducing agent

Hazardous decomposition products

Nitrogen oxides (NOx). Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

The product causes burns of eyes, skin and mucous membranes

Inhalation

Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. Aspiration may cause pulmonary edema and pneumonitis. Causes burns. Corrosive to respiratory system. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Eye Contact

Causes burns.

Skin Contact

Causes burns.

Ingestion

Can burn mouth, throat, and stomach.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric acid - 7697-37-2	-	-	= 2500 ppm (Rat) 1 h = 130 mg/m ³ (Rat) 4 h

Information on toxicological effects**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				X

Reproductive Toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Target Organ Effects

Skin, Eyes, Respiratory system.

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 (inhalation-dust/mist) 436 mg/l

ATEmix (inhalation-vapor) 25000 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Ecotoxicity effects

Harmful to aquatic organisms May cause long-term adverse effects in the aquatic environment

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Nitric acid 7697-37-2		72: 96 h Gambusia affinis mg/L LC50		

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

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

Other Adverse Effects

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products

Dispose of in accordance with federal, state and local regulations Should not be released into the environment

Contaminated Packaging

Do not reuse empty containers.

Chemical name	California Hazardous Waste Status
Nitric acid 7697-37-2	Toxic Corrosive Ignitable

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 Transport No information available in bulk according to Annex II of MARPOL 73/78 and the IBC Code

RID

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

ADR

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

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
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	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	5	1.0

SARA 311/312 Hazard Categories

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

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	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous
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	Quantities			Substances
Nitric acid 7697-37-2	1000 lb			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

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

This product contains the following Proposition 65 chemicals:

Chemical name	California Prop. 65
Vanadium pentoxide - 1314-62-1	Carcinogen
Lead nitrate - 10099-74-8	Carcinogen
Beryllium di(acetate) - 543-81-7	Carcinogen
Nickel - 7440-02-0	Carcinogen
Arsenic - 7440-38-2	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

U.S. EPA Label Information**16. OTHER INFORMATION**

Revision Date 27-Sep-2022

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