

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier****Product Name/Catalog ID** SS-10165; SS-10265; SS-10565**Product Description** 10 000 µg/mL Thallium
Contains Thallium(I) nitrate, Nitric acid**1.2. Relevant identified uses of the substance or mixture and uses advised against****Recommended Use** Laboratory chemicals**Uses advised against** No information available**1.3. Details of the supplier of the safety data sheet****Company**Teknolab
Verkstedveien 29
1400 Ski
Norway
Tel: +47 66 81 34 70
Fax: +47 66 81 34 71
e-mail: mail@teknolab.no
Web: www.spectrascan.no**1.4. Emergency telephone number**Chemtrec 1-800-424-9300 (North America)
Chemtrec +1 703-741-5970 (International)

Europe	See above
Norway	Poisons Information (NO): + 47 22 591300

Section 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture**

REGULATION (EC) No 1272/2008

GHS

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Inhalation (Gases)	Category 4 - (H332)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label Elements**Product identifier**

Contains Thallium(I) nitrate, Nitric acid

**Signal word**

Danger

Hazard statements

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H332 - Harmful if inhaled

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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

2.3. Other information

Other hazards

Harmful to aquatic life

Inhalation of vapors in high concentration may cause irritation of respiratory system

Aspiration may cause pulmonary edema and pneumonitis

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Nitric acid	EEC No. Present	7697-37-2	5	(EUH071) Skin Corr. 1A (H314) Ox. Liq. 2 (H272)	No data available
Thallium(I) nitrate	EEC No. Present	10102-45-1	1.3	Acute Tox. 2 (H300) Acute Tox. 2 (H330) STOT RE 2 (H373) Aquatic Chronic 2 (H411)	No data available

For the full text of the H-Statements mentioned in this Section, see Section 16

Section 4: FIRST AID MEASURES**4.1. Description of first-aid measures****General Advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Call a physician or Poison Control Center immediately. Move 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.

Skin Contact

Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

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.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

4.2. Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	Burn. Difficulty breathing.
--	-----------------------------

4.3. 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
---------------------------	---

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media

No information available

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. 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. Do not get in eyes, on skin, or on clothing.

Advice for emergency responders

Ensure adequate ventilation.

6.2. 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.

6.3. Methods and materials for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
--------------------------------	---

Methods for Cleaning Up	Take up mechanically and collect in suitable container for disposal.
--------------------------------	--

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Technical measures/Precautions

Ensure adequate ventilation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes and 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 before re-use. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Precautions

Keep container tightly closed in a dry and well-ventilated place.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical Name	EU	The United Kingdom	France	Spain	Germany	
Nitric acid 7697-37-2	STEL 1 ppm STEL 2.6 mg/m³	STEL: 1 ppm STEL: 2.6 mg/m³	STEL: 1 ppm STEL: 2.6 mg/m³	STEL: 1 ppm STEL: 2.6 mg/m³	TWA: 1 ppm TWA: 2.6 mg/m³	
Thallium(I) nitrate 10102-45-1		TWA: 0.1 mg/m³ Skin		S* TWA: 0.1 mg/m³		
Component	Italy	Portugal	The Netherlands	Finland	Denmark	
Nitric acid 7697-37-2 (5)	STEL: 1 ppm STEL: 2.6 mg/m³	STEL: 4 ppm TWA: 2 ppm	STEL: 1.3 mg/m³	TWA: 0.5 ppm TWA: 1.3 mg/m³ STEL: 1 ppm STEL: 2.6 mg/m³		
Thallium(I) nitrate 10102-45-1 (1.3)		TWA: 0.1 mg/m³		TWA: 0.1 mg/m³	TWA: 0.1 mg/m³ Skin	
Chemical Name	Sweden	Austria	Switzerland	Poland	Norway	Ireland
Nitric acid 7697-37-2	LLV: 0.5 ppm LLV: 1.3 mg/m³ Binding STLVL: 1 ppm Binding STLVL: 2.6 mg/m³	STEL 1 ppm STEL 2.6 mg/m³	STEL: 2 ppm STEL: 5 mg/m³ TWA: 2 ppm TWA: 5 mg/m³	STEL: 2.6 mg/m³ TWA: 1.4 mg/m³	TWA: 2 ppm TWA: 5 mg/m³ STEL: 4 ppm STEL: 10 mg/m³	STEL: 1 ppm STEL: 2.6 mg/m³
Thallium(I) nitrate 10102-45-1		STEL 1 mg/m³ TWA: 0.1 mg/m³	Skin TWA: 0.1 mg/m³	STEL: 0.3 mg/m³ TWA: 0.1 mg/m³	TWA: 0.1 mg/m³ Skin STEL: 0.3 mg/m³	TWA: 0.1 mg/m³ STEL: 0.3 mg/m³ Skin

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/Face Protection

Tightly fitting safety goggles.

Hand Protection

Impervious gloves.

Skin and Body Protection

Impervious clothing. Boots. Chemical resistant apron.

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.

Environmental Exposure Controls Prevent product from entering drains.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	clear / colorless
Odor	Odorless
<u>Property</u>	<u>Values</u>
pH VALUE	No data available
Melting Point/Range	No data available
Boiling Point/Range	100 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapor Pressure	No data available
Vapor density	No data available
Relative Density	No data available
Specific Gravity	No data available
Water Solubility	Miscible
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available
<u>Other information</u>	
VOC Content	No information available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical Stability

Stable under normal conditions.

Explosion Data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

10.3. Possibility of Hazardous Reactions**Hazardous Polymerization**

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

10.4. Conditions to Avoid

None known.

10.5. Incompatible materials

Reducing agent

10.6. Hazardous Decomposition Products

Nitrogen oxides (NOx).

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Product Information

The product causes burns of eyes, skin and mucous membranes. Toxic by inhalation. Toxic if swallowed.

Inhalation

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

Eye Contact

Causes burns.

Skin Contact

Causes burns.

Ingestion

Can burn mouth, throat, and stomach. Toxic if swallowed.

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

ATEmix (oral) 385.38 mg/kg

ATEmix (inhalation-gas) 7,693.08 ppm

ATEmix (inhalation-dust/mist) 3.82 mg/l

ATEmix (inhalation-vapor) 37.46 mg/l

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Skin corrosion/irritation

No information available.

Eye damage/irritation

No information available.

Sensitization

No information available.

Mutagenic Effects

No information available.

Carcinogenic effects

.

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.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Harmful to aquatic life with long lasting effects

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

Chemical Name	Algae/aquatic plants	Fish	Crustacea
---------------	----------------------	------	-----------

Nitric acid		72: 96 h Gambusia affinis mg/L LC50	
-------------	--	--	--

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	Partition coefficient
Nitric acid	-2.3

12.4. Mobility in soil**Mobility in soil**

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods**Waste from Residues/Unused Products**

Dispose of in accordance with federal, state and local regulations.

Contaminated Packaging

Do not re-use empty containers.

Other Information

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

IMDG

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. Marine Pollutant	None
14.6. Special Provisions	None
14.7. Transport 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. 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. Hazard Class	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories

All of the components in the product are on the following Inventory lists: U.S.A. (TSCA), Europe (EINECS/ELINCS/NLP), Canada (DSL/NDL), Philippines (PICCS), Japan (ENCS), China (IECSC), Australia (AICS), Korea (ECL).

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDL	Complies
PICCS	Complies
ENCS	Complies
IECSC	Complies
AICS	Complies
KECL	Complies

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment

No information available

Section 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R35 - Causes severe burns
R8 - Contact with combustible material may cause fire
R33 - Danger of cumulative effects
R34 - Causes burns
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R26/28 - Very toxic by inhalation and if swallowed
R23/25 - Toxic by inhalation and if swallowed

Full text of H-Statements referred to under section 3

EUH071 - Corrosive to the respiratory tract
H272 - May intensify fire; oxidizer
H300 - Fatal if swallowed
H314 - Causes severe skin burns and eye damage
H330 - Fatal if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Revision Date 25-Jul-2018

Reason for Revision Not applicable.

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

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 Safety Data Sheet