SAFETY DATA SHEET

According to the REACH Regulation (EC) 1907/2006 GHS Rev 9

TELLURIUM – HNO_3

Date of issue: 2024/09/30
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product Identifier

Product form	Liquid
Chemical Name	TELLURIUM – HNO_3
Index No.	Mixture
EC No.	Mixture
CAS No.	Mixture

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1	Relevant identified uses	Laboratory Chemical
1.2.2	Uses advised against	No additional information available.

1.3 Details of the supplier of the safety data sheet

De Bruyn Spectroscopic Solutions
70/145 Chattan Road
Glenferness, Midrand, 2191
Gauteng,
South Africa

1.4 Emergency telephone number:

RSA: 086 100 0366
Namibia: 080 010 0366
Other: Local Emergency Services.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification Regulation (EC) No 1272/2008 (CLP):
Met cor. 1 H290
Skin Corr. 1B, H314
Eye Dam 1, H318
Sk sens. 1, H317
Repro 1B, H360Df
Lact, H362

Full text of hazard classes and H statements: see Section 16.

Adverse physicochemical, human health and environmental effects:
May be corrosive to metals. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to the unborn child. Suspected of damaging fertility. May cause harm to breast fed babies.

Supplementary Information: EUH071 Corrosive to the respiratory tract.

2.2 Label Elements

Labelling (Regulation (EC) No 1272/2008
Hazard Pictograms:

Signal word: DANGER
Hazardous ingredients: Nitric Acid, Tellurium

Hazard Statements:
H290 – May be corrosive to metals.
H314 – Causes severe skin burns and eye damage.
H317 – May cause and allergic skin reaction.
H360Df - May cause damage to the unborn child. Suspected of damaging fertility.

H362 - May cause harm to breast fed babies.

Precautionary Statements:
P201 – Obtain special instructions before use.
P202 – Do not handle until all the safety precautions have been read and understood.
P261 - Do not breathe mist, vapour, fume, or spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Response Statements:
P308 + P313 – IF EXPOSED OR CONCERNED: get medical advice/attention.
P303+P361+P353 - IF ON SKIN (or hair): Immediately remove/take off 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 and continue rinsing.
P310 -Immediately call a POISON CENTER/doctor.
P405 – Store locked up.
P501 - Dispose of contents/containers to registered waste disposal suite.

Reduced Labelling (< = 125 ml)

Signal Word: Danger
Hazard Statements:
Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to unborn child. Suspected of damaging fertility. May cause harm breast fed babies.
Precautions and response:
Do not breathe mist. Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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/doctor
(EU) EUH071 Corrosive to the respiratory tract.

2.3 Other hazards

Other hazards not contributing to the classification:
This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable.

3.2 Mixture

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Nitric acid	(CAS-No.) 7697-37-2 (EC-No.) 231-714-2 (EC Index-No.) 007-004-00-1	20	Ox. Liq. 3, H272; Met cor 1 290; Skin Corr. 1A, H314; Eye dam 1 318; Ac tox 3 H331; EU071
Tellurium	(CAS No.) 13494-80-9 (EC No.) 236-813-4	0.01 10 000 µg/mL as Te	Ac tox (inh-dust) 4 H332; Sk sens 1B, H317; Repro 1B 360DF; Lact 362;
	Specific concentration limits: Tellurium (≥0.1%) Repro 1B, H360DF; Lact 362 (≥0.1%) Sk sens 1B, H317		Specific concentration limits: Nitric Acid (5 =< 20) Skin Corr. 1B, H314 ;(C >= 20) Skin Corr. 1A, H314 (65 =< 99) Ox. Liq. 3, H272 (C >= 99) Ox. Liq. 2, H272

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

First aid measures general — Take off immediately all contaminated clothing. First aiders need to protect themselves.

First aid measures after inhalation — Remove person to fresh air and keep comfortable for breathing. If symptoms occur obtain medical attention.

First aid measures after skin contact — Rinse skin with water/shower. Call a doctor/physician immediately.

First aid measures after eye contact — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a doctor/physician immediately.

First aid measures after ingestion	Rinse mouth. Do not induce vomiting. Call a doctor/physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	Causes burns. May cause allergic skin reaction.
Symptoms/effects after eye contact	Causes serious damage to eyes. Risk of blindness.
Symptoms/effects after ingestion/inhalation	Cough, shortness of breath, difficulty breathing, gastric perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Fire hazard	Product not combustible.
Hazardous decomposition products in case of fire	Toxic fumes may be released. Nitrogen oxides (NOx).

5.3 Advice for firefighters

Protection during firefighting	In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

5.4 Further Information

No further information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

6.1.1 **For non-emergency personnel**

Emergency procedures	Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.1.2 **For emergency responders**

Protective equipment	Do not attempt to act without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	Take up liquid spill into non-combustible absorbent material.
Other Information	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 5, 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling	Ensure adequate ventilation. Wear recommended personal protective equipment. See section 8. Avoid contact with eyes and skin. Do not inhale vapour, or mist.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Immediately change contaminated clothing. Wash hands before breaks and at the end of workday. Do not eat, drink, or smoke while working.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Store in a well-ventilated place. Keep container tightly closed. Keep only in original container. Protect from UV radiation and heat. Store locked up.

Incompatible materials Strong alkali, various metals, combustible materials.

Packaging Original container.

7.3 Specific end users No additional information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limits

Nitric Acid (CAS: 7697-37-2)		
United Kingdom	WEL STEL (Gas and mist)	1 ppm / 2.6 mg/m^3
South Africa; HCA Regulations	TWA (8 Hour) STEL (15 min)	4 ppm 8 ppm

Tellurium (CAS: 13494-80-9)		
United Kingdom	TWA (8 Hour) STEL (15 min)	0.1 mg/m^3 0.3 mg/m^3

8.2 Exposure controls

Appropriate engineering controls Ensure adequate ventilation. Provide eyewash facility.

Personal protective equipment

Hand protection Protective gloves PVC, rubber

Eye protection Tightly fitting safety goggles/face mask

Skin and body protection Acid resistant protective clothing,

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipme

Environmental exposure controls Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Product form	Liquid
Appearance	Colorless
Odour	Slight
Odour threshold	No data available
pH	<2 @ 20ºC
Relative evaporation rate (butylacetate = 1)	No data available
Melting point/Freezing Point	No data available
Initial Boiling point	No data available
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Flammability (solid, gas)	Not applicable
Vapour pressure	No data available
Vapour density	No data available
Relative vapour density @ 20ºC	No data available
Density	1.115 g/cm^3 @ 20ºC
Solubility (water)	Miscible
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available

Explosive properties	Not classified as explosive
Explosive limits	Not applicable
Oxidising properties	None

9.2 Additional information
No additional data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
The product is corrosive to metals.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Reacts violently with strong bases, organic materials, metals, hydrogen sulphide, carbides, alcohols, organic solvents, cyanides, sulphides.

10.4 Conditions to avoid
UV radiation/sunlight. Keep away from heat.

10.5 Incompatible materials
Strong bases, various metals, combustible materials.

10.6 Hazardous decomposition products
No hazardous decomposition if stored and handled correctly. Thermal decomposition releases corrosive gases/vapours (NOx).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects — Test data not available for the mixture.

Acute toxicity (oral)	Product does not meet classification criteria.
Acute toxicity (Dermal)	Product does not meet classification criteria.
Acute toxicity (Respiratory)	Product does not meet classification criteria.

Nitric acid ≥ 65 %	
LC50 inhalation (vapour)	2.65 mg/ℓ

Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Serious eye damage,
Respiratory or skin sensitisation	May cause allergic skin reaction
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	May cause damage to unborn child. May damage fertility. May cause harm breast fed babies
STOT-SE	Not classified
STOT RE	Not classified
Aspiration hazard	Not classified

11.2 Additional Information
Endocrine disrupting properties
This substance/mixture does not contain components considered to have endocrine disrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Mixure does not meet classification criteria.

Tellurium Cas No.: 13494-80-9	
LC50 fish (96hr)	> 37.1 mg/ℓ

Ecology - general	Before neutralisation, the product may present a danger to aquatic organisms.
Acute aquatic toxicity	Not classified.
Chronic aquatic toxicity	Not classified.

12.2 **Persistence and degradability** Not applicable for inorganic compounds.

12.3 **Bioaccumulative potential** Not applicable for inorganic compounds.

12.4 **Mobility** No data available.

12.5 **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bio accumulative or toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

12.6 **Endocrine disrupting properties**

Assessment This substance/mixture does not contain components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 **Other adverse effects**

No additional information.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods: Product and packaging

The generation of waste should be avoided or minimised wherever possible. This material and packaging must be disposed of in a safe way in consultation with licensed waste disposal company in accordance with local legal requirements.

SECTION 14:TRANSPORT INFORMATION

In accordance with ADR / IMDG / IATA

	ADR	IMDG	IATA	Class Diamond
UN Number	3264	3264	3264	
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S (Nitric Acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S (Nitric Acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S (Nitric Acid)	
Hazard Class	8	8	8	
Subsidiary hazard class	-	-	-	
Packing Group	III	III	III	
Marine pollutant	No	No	No	

Limited/Excepted quantity: 5L

SECTION 15: REGULATORY INFORMATION

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

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

Authorisations and/or restrictions on use:

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006. Regulation (EU) 2019/1148 on the marketing and use of explosives precursors: Nitric Acid

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Tellurium restricted from use for tatooing purposes.

National Regulations:

Occupational Health and Safety Act 85 of 1993.
Hazardous Chemical Agents Regulations.
SANS 10228, 10229, 10232-4.

15.2 **Chemical Safety Assessment**

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Full text of hazard classes and statements:

Sk cor. Cat 1B, H314	Skin corrosion, Category 1B, Causes seveve skin burns.
Eye Dam Cat 1, H318	Eye Damage Category 1, Causes serious eye damage
Met.Cor. Cat 1A, H290	Metal corrosion Category 1A, May cause metal corrosion.
Repro 1B, H360Df	Reproductive toxicity, Category 1B, May cause damage to the unborn child. Suspected of damaging fertility.
Lact 362;	Lactation toxicity, May cause harm to breast fed babies.
Sk sens 1B, H317;	Skin sensitizer, Category 1B, May cause an allergic skin reaction.
Sk cor. Cat 1A, H314	Skin corrosion, Category 1A, Causes seveve skin burns and eye damage.
Ox liq. Cat 3, H272	Oxidizing liquid, category 3, May intensify fire-oxidiser.
Ox liq. Cat 2, H272	Oxidizing liquid, category 2, May intensify fire-oxidiser.
Ox sol 2, H272	Oxidizing solid, Category 2, May intensify fire-oxidiser
Ac tox (inh-dust) 4 H332;	Acute toxicity (Inhalation, dust, mist), Category 4. Harmful if inhaled
WEL STEL	Workplace Exposure Limit; Short term Exposure Limit
TWA	Time weighted average.

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Revision history	Changes	Date
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