Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product code AM9738
Product name TRI Reagent® 100 ml

Company/undertaking identification

Thermo Fisher Scientific Baltics UAB
V.Graiciuno 8
LT-02241 Vilnius
Lithuania
Tel.: +370 5 2602131
Fax.: +370 5 2602142

24 hour Emergency Response: 866-536-0631
301-431-8585
Outside of the U.S. +1-301-431-8585

24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC Within the USA + Canada: 1-800-424-9300 and +1 703-527-3887
Outside the USA + Canada: +1 703-741-5970

Country specific Emergency Number (if available):
CHEMTREC Brazil (Rio De Janeiro) +(55)-2139581449 (português)

For Research Use Only. Not for use in diagnostic procedures.

SECTION 2: Hazards identification

GHS - Classification

Signal Word
DANGER

Hazard pictograms

Health hazards

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3

Acute Inhalation Toxicity - Vapors	Category 3
Skin corrosion/irritation	Category 1 B
Serious eye damage/eye irritation	Category 1
Specific target organ systemic toxicity (single exposure)	Category 3
Specific target organ systemic toxicity (repeated exposure)	Category 2

Mutagenicity	Mutagenic category 2

Physical hazards
Not classified

Environmental hazards

Chronic aquatic toxicity	Category 3

Hazard Statements
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H373 - May cause damage to organs through prolonged or repeated exposure
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

Prevention
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash hands thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P201 - Obtain special instructions before use
P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Response
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302 + P352 - IF ON SKIN: 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
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Storage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards
Not Applicable

HMIS

Health	4 * Chronic Hazard
Flammability	0

Reactivity	0

SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
Phenol 108-95-2 (30-60)	108-95-2	203-632-7	30-60
Ammonium thiocyanate 1762-95-4 (7-13)	1762-95-4	217-175-6	7-13
Guanidine isothiocyanate 593-84-0 (15-40)	593-84-0	209-812-1	15-40

Contact with acids or bleach liberates toxic gases. DO NOT ADD acids or bleach to any liquid wastes containing this product. We recommend handling all chemicals with caution.

SECTION 4: First aid measures

Description of first aid measures

Skin contact Rinse with plenty of water . Immediate medical attention is not required.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do
.

Ingestion Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

Inhalation Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.

Notes to Physician Treat symptomatically.

Most important symptoms and effects, both acute and delayed
H301 - Toxic if swallowed H311 - Toxic in contact with skin H331 - Toxic if inhaled H314 - Causes severe skin burns and eye damage H335 - May cause respiratory irritation H341 - Suspected of causing genetic defects H373 - May cause damage to organs through prolonged or repeated exposure H412 - Harmful to aquatic life with long lasting effects

Indication of any immediate medical attention and special treatment needed
None.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media Water spray. Carbon dioxide (CO2). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Special hazards arising from the substance or mixture Not known.

Advice for fire-fighters Standard procedure for chemical fires.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

Environmental precautions
No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up
Soak up with inert absorbent material.

Reference to other sections
See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling
Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities
Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)
For research use only.

SECTION 8: Exposure controls/personal protection

Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Phenol	5 ppm 19 mg/m^3	None	5 ppm	None
Ammonium thiocyanate	5 mg/m^3	None	None	None
Guanidine isothiocyanate	None	None	None	None

Engineering measures Ensure adequate ventilation, especially in confined areas

Exposure controls

Personal Protective Equipment

Respiratory protection In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

Hand protection Wear suitable gloves Glove material: Compatible chemical-resistant gloves.

Eye protection Tight sealing safety goggles

Skin and Body Protection Wear suitable protective clothing

Hygiene measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls
No special environmental precautions required.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	liquid	
Odor	medicinal, sweet, Tar like	
Melting point / melting range	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Boiling point / boiling range	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Flash point	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Autoignition Temperature	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Decomposition temperature	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Upper explosion limit	Mixture has not been tested	
Lower explosion limit	Mixture has not been tested	
Vapor Pressure	Mixture has not been tested	
Relative density	Mixture has not been tested	
Specific gravity	No data available	
Solubility	No data available	
Partition coefficient: n-octanol/water	No data available	
Explosive properties	Mixture has not been tested	
Other information	No data available	

SECTION 10: Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	No information available.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	No data available.

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Phenol	= 317 mg/kg (Rat) = 340 mg/kg (Rat)	No data available	=316mg/m³(Rat)
Ammonium thiocyanate	= 750 mg/kg (Rat)	No data available	No data available
Guanidine isothiocyanate	764mg/kg	2000 mg/kg	5.319 mg/L (4H)

Principal Routes of Exposure

Irritation Conclusive but not sufficient for classification

Corrosivity Conclusive but not sufficient for classification

Sensitization Conclusive but not sufficient for classification

STOT - Single Exposure Conclusive but not sufficient for classification

STOT - Repeated Exposure Conclusive but not sufficient for classification

Carcinogenicity Conclusive but not sufficient for classification

Mutagenicity Conclusive but not sufficient for classification

Reproductive toxicity Conclusive but not sufficient for classification

Aspiration hazard Conclusive but not sufficient for classification

SECTION 12: Ecological information

Toxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Phenol	Desmodesmus subspicatus EC50 187 - 279 mg/L (72 h) Pseudokirchneriella subcapitata EC50 46.42 mg/L (96 h)	Daphnia magna EC50 4.24 - 10.7 mg/L (48 h) Daphnia magna EC50 10.2 - 15.5 mg/L (48 h)	No data available	No data available	logPow1.5
Ammonium thiocyanate	No data available	No data available	No data available	No data available	No data available
Guanidine isothiocyanate	No data available	No data available	No data available	No data available	No data available

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Results of PBT and vPvB assessment
No information available.

Other adverse effects No information available.

SECTION 13: Disposal considerations

Waste treatment methods
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG
Not regulated in the meaning of transport regulations.

UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (phenol - guanidine thiocyanate solution)
Transport hazard class(es)	8
Packing group	II
Environmental hazards	Not Applicable
Special precautions for user	Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
Phenol 108-95-2 (30-60)	Listed
Ammonium thiocyanate 1762-95-4 (7-13)	Listed
Guanidine isothiocyanate 593-84-0 (15-40)	Listed

US Federal Regulations

SARA 313

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers:.

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Phenol	108-95-2	30-60	1.0
Ammonium thiocyanate	1762-95-4	7-13	1.0

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:.

Component	CAS-No	Weight %	HAPS data
Phenol 108-95-2 (30-60)	108-95-2	30-60	Present
Ammonium thiocyanate 1762-95-4 (7-13)	1762-95-4	7-13	Present (XCN where X=H or any other group where a formal dissociation may occur. For example KCN or Ca[CN]2)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class

D1A - Very toxic materials
E - Corrosive material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION 16: Other information

Reason for revision SDS sections updated.
Revision number 8
Revision date 01-Sep-2017

For Research Use Only. Not for use in diagnostic procedures.

References

• ECHA: http://echa.europa.eu/

• TOXNET: http://toxnet.nlm.nih.gov/
• eChemPortal: http://www.echemportal.org/
• LOLI database: https://www.chemadvisor.com/loli-database

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End of Safety Data Sheet