



7040 Virginia Manor Road  
Beltsville, MD 20705, USA  
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Email: [info@abpbio.com](mailto:info@abpbio.com)

## Material Safety Data Sheet

### Section 1. Identification of the Substance/Mixture

**Product name:** TRIzol Reagent

#### Manufacturer/Supplier identification

ABP Biosciences  
7040 Virginia Manor Road, Beltsville, MD 20705, USA  
Web: [www.abpbio.com](http://www.abpbio.com)  
Tel: 301-658-7993  
Email: [info@abpbio.com](mailto:info@abpbio.com)

**For research use only. Not for use in diagnosis 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 - vapor	Category 3
Skin corrosion/irritation	Category 1B
Serious eye damage/irritation	Category 1
Specific target organ toxicity (STOT) – single exposure	Category 3
Specific target organ toxicity (STOT) – repeated exposure	Category 2
Germ cell mutagenicity	Category 2

**Physical hazards:** Not classified

#### Environmental hazards:

Chronic aquatic hazard	Category 3
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#### Hazard Statements:

H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H341 Suspected of causing genetic defects.

## Precautionary Statements

### Prevention:

P201 - Obtain special instructions before use.  
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.

### Response:

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### Disposal:

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

### Other hazards:

Not Applicable.

### HMIS

Health	4
Flammability	0
Reactivity	0

## Section 3. Composition/Information on Ingredients

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Substance/Mixture: Mixture

Substance name: TRIzol Reagent

Chemical Name	CAS No.	Weight-%
Guanidinium thiocyanate	593-84-1	15-40
Ammonium thiocyanate	1762-95-4	7-13
Phenol	108-95-2	30-60

We recommend handling all chemicals with caution.

## Section 4. First Aid Measures

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### 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. Continue rinsing.

#### 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.



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### **Most important symptoms and effects, both acute and delayed**

H302 - Harmful if swallowed H315 - Causes skin irritation H319 - Causes serious eye irritation.

### **Indication of any immediate medical attention and special treatment needed**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. If skin irritation occurs: Get medical advice/ attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

## **Section 5. Fire-Fighting Measures**

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### **Extinguishing media**

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical.
<b>Unsuitable extinguishing media</b>	No information available.

### **Special hazards arising from the substance or mixture**

Not known

### **Protective equipment and precautions for firefighters**

Standard procedure for chemical fires.

## **Section 6. Accidental Release Measures**

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### **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 information

### **Environmental precautions**

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### **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**

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### **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

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### Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Hazardous components without workplace control parameters

Ingredients	CAS No.
Guanidinium thiocyanate	593-84-1
Ammonium thiocyanate	1762-95-4
Phenol	108-95-2

**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

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## Section 9. Physical and Chemical Properties

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### Information on basic physical and chemical properties

<b>Appearance</b>	liquid
<b>Odor</b>	No data
<b>Odor Threshold</b>	No data
<b>Melting point / melting range</b>	°C No data
<b>Boiling point / boiling range</b>	°C No data
<b>Flash point</b>	°C No data
<b>Autoignition Temperature</b>	°C No data
<b>Decomposition temperature</b>	°C No data
<b>Evaporation rate</b>	No data
<b>Flammability (solid, gas)</b>	No data
<b>Upper explosion limit</b>	No data
<b>Lower explosion limit</b>	No data
<b>Vapor Pressure</b>	No data



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Vapor density	No data
Relative density	No data
Specific gravity	No data
Solubility	No data
Partition coefficient:	
n-octanol/water	No data
Viscosity	No data
Explosive properties	No data
Oxidizing properties	No data
Other information	No data.

## Section 10. Stability and Reactivity

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Reactivity	No decomposition if stored and applied as directed.
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

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### Information on toxicological effects

Chemical Name	ID50 (oral, rat/mouse)	ID50 (dermal, rat/rabbit)	ID50 (inhalation, rat/mouse)
Guanidinium thiocyanate	593 mg/kg	No data available	No data available
Ammonium thiocyanate	750 mg/kg (Rat)	No data available	No data available
Phenol	340 mg/kg (Rat)	No data available	316 mg/m <sup>3</sup> (Rat)

### Principal Routes of Exposure

Acute toxicity	Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.
Skin corrosion/irritation	Causes severe burns.
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitization	Data are conclusive but insufficient for classification
Specific target organ toxicity (STOT)–single exposure	Data are conclusive but insufficient for classification
Specific target organ toxicity (STOT)–repeated exposure	Data are conclusive but insufficient for classification
Carcinogenicity	Data are conclusive but insufficient for classification

<b>Germ cell mutagenicity</b>	Data are conclusive but insufficient for classification
<b>Reproductive toxicity</b>	Data are conclusive but insufficient for classification
<b>Aspiration hazard</b>	Data are conclusive but insufficient for classification

## Section 12. Ecological Information

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### Ecotoxicity

Hazardous to the Aquatic Environment.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## Section 13. Disposal considerations

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### 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. Do not empty into drains. Do not dispose of waste into sewer.

## Section 14. Transport Information

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### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

**UN number** 1760

**UN proper shipping name** Corrosive liquid

**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

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### US Federal Regulations

SARA 313



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This product is not regulated by SARA.

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

This product does not contain HAPs

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**WHMIS Hazard Class**

D2B - Toxic materials

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

**Section 16. Other Information**

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For research use only. Not intended for human or animal diagnostic or therapeutic uses.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

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**End of Material Safety Data Sheet**