

# SAFETY DATA SHEET

## 1. Identification of the substance or mixture and of the supplier


1.1 GHS product identifier	Proteomic Stabilizer PROT1
1.2 Other means of identification	
Product code	PROT1, PROT1-250ML, PROT1-1L, MTS1P-100/CS
1.3 Recommendations and restrictions on the use of substances or mixtures	
Recommended use	Stabilization of whole blood samples.
Recommended restrictions	Research use only.
1.4 Supplier's details	
Company name	Smart Tube, Inc.
Address	6658 W. Sunset Road, Suite 100 Las Vegas, NV 89118 USA
Website	www.smarttubeinc.com
For product information call	+1 855 397 8467
For emergencies only call	CHEMTREC: 001-800-13-203-9987 (Toll-Free)

## 2. Hazards identification

### 2.1 GHS classification of substance or mixture, and national or regional information

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 5
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1A
	Germ cell mutagenicity	Category 2
	Carcinogenicity	Category 1A
	Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3

### 2.2 GHS label elements

Hazard symbol(s)	
Signal word	Danger
Hazard statement(s)	May be harmful if swallowed. Toxic if inhaled. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. May cause respiratory irritation. Harmful to aquatic life.
Precautionary statement(s)	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist/vapours. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF exposed or concerned: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. 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 CENTRE or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre/doctor.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards which do not result in GHS classification** None known.

**Supplemental information** None.

### 3. Composition/information on ingredients

#### 3.2 Mixture

Chemical identity	Common name and synonym	CAS number and other unique identifiers	Concentration or concentration range
Diethylene glycol		111-46-6	3 - 7
Formaldehyde		50-00-0	3 - 7
Sodium chloride		7647-14-5	1 - 3

**Composition comments** All concentrations are in percent by weight unless otherwise indicated. Components not listed are either non-hazardous or are below reportable limits.

### 4. First-aid measures

#### 4.1 Description of first-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor/physician.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
<b>Ingestion</b>	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

**4.2 Most important symptoms/effects, acute and delayed** Skin irritation. May cause redness and pain. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

**4.3 Indication of immediate medical considerations and important specific treatment that should be performed** Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**General advice** IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

#### 5.1 Prohibited extinguishing media and suitable extinguishing media

<b>Suitable extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	No restrictions known.

**5.2 Specific hazards arising from chemicals** During fire, hazardous combustion products are released that may include: Carbon oxides.

**5.3 Special protective equipment and precautions for fire-fighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** Move containers from fire area if you can do so without risk.

**General fire hazards** No unusual fire or explosion hazards noted.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**6.2 Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

## 6.3 Methods and materials for containment and cleaning up

This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Retain and dispose of contaminated wash water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

### 7.1 Precautions for safe handling, use and storage

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist/vapours. Do not get this material in contact with eyes. Avoid contact with skin and clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### 7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Thailand. OELs. Notification of the Ministry of Interior, Re: Working Safety in Respect to Environmental Condition (Chemical)

Components	Type	Value
Formaldehyde (CAS 50-00-0)	STEL	2 ppm
	TWA	0.75 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Formaldehyde (CAS 50-00-0)	STEL	0.3 ppm
	TWA	0.1 ppm

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### 8.2 Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product.

### 8.3 Personal protective measures

#### Eye/face protection

When working with liquids wear splash-proof chemical goggles and face shield unless full facepiece respiratory protection is worn.

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves. Nitrile or neoprene gloves are recommended.  
- material thickness: 3.9 mm  
- break through time: 120 min  
Other suitable gloves can be recommended by the glove supplier.

##### Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

#### Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapour cartridge and full facepiece. Check with respiratory protective equipment suppliers.

#### Thermal hazards

No protection is ordinarily required under normal conditions of use.

### General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

### 9.1 Appearance

Physical state	Liquid.
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<b>Form</b>	Liquid.
<b>Colour</b>	Colourless.
<b>9.2 Odor</b>	Formaldehyde.
<b>9.3 Odor threshold limit</b>	Not determined.
<b>9.4 pH</b>	7.8
<b>9.5 Melting point/freezing point</b>	Property has not been measured.
<b>9.6 Initial boiling point and boiling range</b>	100 °C (212 °F)
<b>9.7 Flash point</b>	Does not flash.
<b>9.8 Evaporation rate</b>	Property has not been measured.
<b>9.9 Flammability (solid, gas)</b>	Not applicable.
<b>9.10 Upper/lower flammability or explosive limits</b>	
Explosive limit - lower ( % )	Not applicable.
Explosive limit – upper ( % )	Not applicable.
<b>9.11 Vapor pressure</b>	Property has not been measured.
<b>9.12 Vapor density</b>	Property has not been measured.
<b>9.13 Relative density</b>	Property has not been measured.
<b>9.14 Solubility(ies)</b>	
Solubility (water)	Miscible in water.
<b>9.15 Partition coefficient: n-octanol/water</b>	Not applicable, product is a mixture.
<b>9.16 Auto-ignition temperature</b>	Not applicable.
<b>9.17 Decomposition temperature</b>	Property has not been measured.
<b>9.18 Viscosity</b>	1 cP (25 °C (77 °F))
<b>Other information</b>	
Explosive properties	Not explosive.
Kinematic viscosity	Property has not been measured.
Oxidising properties	Not oxidising.
Particle size	Not applicable, material is a liquid.

## 10. Stability and reactivity

<b>10.1 Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2 Chemical stability</b>	Material is stable under normal conditions.
<b>10.3 Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4 Conditions to avoid</b>	Contact with incompatible materials.
<b>10.5 Incompatible materials</b>	Strong oxidising agents.
<b>10.6 Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

<b>11.1 Information on likely routes of exposure</b>	
Inhalation	Toxic if inhaled.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	May be harmful if swallowed.
<b>11.2 Symptoms related to physical, chemical and toxicological characteristics</b>	Skin irritation. May cause redness and pain. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
<b>11.3 Delayed and immediate effects, including chronic effects from short- and long-term exposure</b>	Occupational exposure to the substance or mixture may cause adverse effects.
<b>11.4 Numerical values of toxicity</b>	

**Acute toxicity** Toxic if inhaled. May be harmful if swallowed.

Components	Species	Test Results
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Diethylene glycol (CAS 111-46-6)

**Acute**

**Dermal**

LD50	Rabbit	11890 mg/kg
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Formaldehyde (CAS 50-00-0)

**Acute**

**Inhalation**

*Vapour*

LC50	Rat	< 0.58 mg/l, 4 Hours
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**Oral**

LD50	Rat	460 mg/kg
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**Other**

LD50	Rabbit	270 mg/kg
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**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory or skin sensitisation**

**ACGIH sensitisation**

Formaldehyde (CAS 50-00-0)	Dermal sensitisation Respiratory sensitisation
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**Respiratory sensitisation** Does not meet classification criteria.

**Skin sensitisation** May cause an allergic skin reaction.

**Germ cell mutagenicity** Suspected of causing genetic defects.

**Carcinogenicity** May cause cancer.

**ACGIH Carcinogens**

Formaldehyde (CAS 50-00-0)	A1 Confirmed human carcinogen.
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**IARC. Monographs on the evaluation of carcinogenic risks to humans**

Formaldehyde (CAS 50-00-0)	1 Carcinogenic to humans.
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**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Further information** Symptoms may be delayed.

## 12. Ecological information

**12.1 Ecological toxicity** Harmful to aquatic life.

Components	Species	Test Results
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Formaldehyde (CAS 50-00-0)

**Aquatic**

Algae	EC50	Desmodesmus subspicatus	3.48 mg/l, 72 hours
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Crustacea	LC50	Daphnia pulex	5.8 mg/l, 48 hours
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Fish	LC50	Morone saxatilis	6.7 mg/l, 96 hours
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**12.2 Persistence and degradability** No data is available on the degradability of this product.

**12.3 Bioaccumulative potential** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**

Formaldehyde (CAS 50-00-0)	0.35
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**12.4 Mobility in soil** This product is miscible in water. Expected to be mobile in soil.

**12.5 Other adverse effects** The product contains volatile organic compounds which have a photochemical ozone creation potential.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

**ADR**  
Not regulated as dangerous goods.

**IATA**  
Not regulated as dangerous goods.

**IMDG**  
Not regulated as dangerous goods.

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

### 15. Regulatory information

**Safety, health and environmental regulation/legislation specific for the substance or mixture** The 16 sections of the SDS are aligned with the third revision (2009) of the UN Purple Book (GHS) in accordance with the Notification of the Ministry of Industry Subject: Hazard Classification and Communication System for Hazardous Substances B.E. 2555 (2012).

**Hazardous substances in the work place (DLPW Notification Re: List of Hazardous Chemicals, Royal Gazette, Vol. 130 Part 185 Ngor, issued December 20, B.E.2556 (2013))**

FORMALDEHYDE (CONCENTRATION  $\geq 90\%$ ) (CAS 50-00-0)

**Thailand. Explosive Substances & Precursors (Ministry of Defense Notification Re: Arms Subject to Imports License, B.E.2551 (2008)), as amended**

Not regulated.

**Thailand. Reportable Hazardous Substances (Notification of Ministry of Industry Re: Bases respecting report of quantity of hazardous materials under Department of Industrial Works, B.E. 2547 (2004))**

Not regulated.

#### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other information, including date of preparation or last revision

**Issue date** 23-February-2022  
**Revision date** -  
**Version No.** 01

**Disclaimer**

Smart Tube, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.