

# SAFETY DATA SHEET

## 1. Identification of the dangerous substance/preparation and the identity of the manufacturer, importer, agent or marketer

<b>Product name</b>	<b>Proteomic Stabilizer PROT1</b>
<b>Company name</b>	Smart Tube, Inc.
<b>Address</b>	6658 W. Sunset Road Suite 100 Las Vegas, NV 89118 USA
<b>Website</b>	www.smarttubeinc.com
<b>For product information call</b>	+1 855 397 8467
<b>For emergencies only call</b>	CHEMTREC: 972-37630639
<b>Product number</b>	PROT1, PROT1-250ML, PROT1-1L, MTS1P-100/CS

## 2. Identification of the components of the substance/preparation

Substance or Preparation	Preparation		
Chemical name	Synonyms	CAS number	Percent
Diethylene glycol		111-46-6	3 - 7
Formaldehyde		50-00-0	3 - 7

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

## 3. Dangers of the dangerous substance/preparation

This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

<b>Classification</b>	Carc. Cat. 2;R45, Muta. Cat. 3;R68, T;R23, Xn;R21/22, Xi;R36/37/38, R43
<b>Physical hazards</b>	Not classified as a physical hazard.
<b>Health hazards</b>	May cause cancer. Also harmful in contact with skin and if swallowed. Also toxic by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact. Possible risk of irreversible effects.
<b>Environmental hazards</b>	Not classified as an environmental hazard.
<b>Specific hazards</b>	Toxic by inhalation. Harmful in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Irritating to mouth, throat, and stomach. May cause sensitisation by skin contact. May cause cancer. Possible risk of irreversible effects. Prolonged exposure may cause chronic effects.
<b>Main symptoms</b>	Skin irritation. May cause redness and pain. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. May cause respiratory irritation. Prolonged exposure may cause chronic effects.

## 4. First aid instructions

### First aid measures for different exposure routes

<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 if irritation develops and persists.
<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.
<b>Main symptoms</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

**Personal protection for first-aid responders** 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.

**Notes to physician** Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**Special first aid equipment** Oxygen or artificial respiration if needed.

## 5. Firefighting procedure

### Extinguishing media

**Suitable extinguishing media** Use fire-extinguishing media appropriate for surrounding materials.

**Extinguishing media which must not be used for safety reasons** No restrictions known.

**Specific hazards during fire fighting** During fire, gases hazardous to health may be formed.

**Special fire fighting procedures** Move containers from fire area if you can do so without risk.

**Protection of fire-fighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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

## 6. Safety precautions

**Personal precautions** 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.

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

**Methods for 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.

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. This material and its container must be disposed of as hazardous waste. For waste disposal, see section 13 of the SDS.

**Containment procedures** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

## 7. Handling and storage

**Precautions for safe handling** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapours. Avoid 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.

**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. Means of reducing exposure and personal protection

**Engineering measures** 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. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

**Occupational exposure limits****Israel. OELs (Labor Inspection Regs. (Occup. & Bio. Monitoring of those Working with Hazardous Materials), Appendix 2, 1990, as amended)**

Components	Type	Value
Formaldehyde (CAS 50-00-0)	Ceiling	0.3 ppm
	TWA	0.2 ppm

**Israel. OELs (Work Safety Regulations (Environmental Monitoring and Biological Monitoring of Workers with Harmful Agents))**

Components	Type	Value
Formaldehyde (CAS 50-00-0)	AL	0.1 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).

**Personal protective equipment**

**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.

**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.

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

**Skin and body protection** Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Hygiene measures** 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****Appearance**

**Physical state** Liquid.

**Form** Liquid.

**Colour** Colourless.

**Odour** Formaldehyde.

**pH** 7.8

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** 100 °C (212 °F)

**Decomposition temperature** Not available.

**Flash point** Does not flash.

**Flammability** Not applicable.

**Auto-ignition temperature** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not applicable.

**Flammability limit - upper (%)** Not applicable.

**Oxidising properties** Not oxidising.

**Vapour pressure** Not available.

<b>Density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Miscible in water.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Viscosity</b>	1 cP (25 °C (77 °F))

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Toxic by inhalation.
<b>Skin contact</b>	Causes skin irritation. May cause sensitisation by skin contact.
<b>Eye contact</b>	Irritating to eyes.
<b>Ingestion</b>	Harmful if swallowed.

**Toxicological data** Occupational exposure to the substance or mixture may cause adverse effects.

**Acute toxicity** Toxic if inhaled.

<b>Components</b>	<b>Species</b>	<b>Test Results</b>
-------------------	----------------	---------------------

Diethylene glycol (CAS 111-46-6)

#### Acute

##### **Dermal**

LD50	Rabbit	11890 mg/kg
------	--------	-------------

Formaldehyde (CAS 50-00-0)

#### Acute

##### **Inhalation**

###### *Vapour*

LC50	Rat	< 0.58 mg/l, 4 Hours
------	-----	----------------------

##### **Oral**

LD50	Rat	460 mg/kg
------	-----	-----------

##### **Other**

LD50	Rabbit	270 mg/kg
------	--------	-----------

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Irritating to eyes.

### Respiratory or skin sensitisation

#### **ACGIH sensitisation**

FORMALDEHYDE (CAS 50-00-0)

Dermal sensitisation  
Respiratory sensitisation

**Respiratory sensitisation** Based on available data, the classification criteria are not met.

**Skin sensitisation** May cause sensitisation by skin contact.

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

**Carcinogenicity** May cause cancer.

**ACGIH Carcinogens**

Formaldehyde (CAS 50-00-0)

A1 Confirmed human carcinogen.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Formaldehyde (CAS 50-00-0)

1 Carcinogenic to humans.

<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.
<b>Other information</b>	Symptoms may be delayed.

**12. Environmental information****Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Formaldehyde (CAS 50-00-0)		
<b>Aquatic</b>		
Algae	EC50	Desmodesmus subspicatus 3.48 mg/l, 72 hours
Crustacea	LC50	Daphnia pulex 5.8 mg/l, 48 hours
Fish	LC50	Morone saxatilis 6.7 mg/l, 96 hours

<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
<b>Persistence and degradability</b>	
<b>Biodegradation</b>	No data is available on the degradability of this product.
<b>Mobility in soil</b>	This product is miscible in water.
<b>Other information</b>	None known.
<b>Other adverse effects</b>	The product contains volatile organic compounds which have a photochemical ozone creation potential.

**13. Dangerous substance disposal methods**

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	Dispose of 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. Avoid discharge into water courses or onto the ground.
<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.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

**14. Transport information****International regulations****IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

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

## 15. Regulatory information

### Israel regulations

**Israel. Harmful Chemicals (Hazardous Substances Law, 5753-1993, Annex 1, as amended)**

Formaldehyde (CAS 50-00-0)

**Israel. Toxic Chemicals (Hazardous Substances Law, 5753-1993, Annex 2, as amended)**

Not listed.

### Labelling

**Contains** Formaldehyde

#### Symbol(s)



Toxic

#### R-phrases(s)

R45 May cause cancer.  
 R21/22 Also harmful in contact with skin and if swallowed.  
 R23 Also toxic by inhalation.  
 R36/37/38 Irritating to eyes, respiratory system and skin.  
 R43 May cause sensitisation by skin contact.  
 R68 Possible risk of irreversible effects.

#### S-phrases(s)

S13 Keep away from food, drink and animal feeding stuffs.  
 S20 When using do not eat or drink.  
 S23 Do not breathe gas/fumes/vapour/spray.  
 S24/25 Avoid contact with skin and eyes.  
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S29 Do not empty into drains.  
 S36/37 Wear suitable protective clothing and gloves.  
 S53 Avoid exposure - obtain special instructions before use.  
 S60 This material and its container must be disposed of as hazardous waste.

## 16. Other information

### Training information

Follow training instructions when handling this material.

### Recommended use

Stabilization of whole blood samples.

### Recommended restrictions

Research use only.

### Further information

Not applicable.

### Bibliography

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices  
 EPA: AQUIRE database  
 HSDB® - Hazardous Substances Data Bank  
 IARC Monographs. Overall Evaluation of Carcinogenicity  
 NLM: Hazardous Substances Data Base  
 National Toxicology Program (NTP) Report on Carcinogens

### 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.