



# SAFETY DATA SHEET

United States

## Section 1. Identification

Product name

**Protein precipitation buffer type 1; part of  
'triplePrep™ Kit, 50 reactions'**

Catalogue Number

**28942544**



9 0 2 8 9 4 2 5 4 4

Other means of identification

Not available.

Product type

Liquid.

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

#### Identified uses

Use in laboratories

Supplier

Cytiva  
Amersham Place  
Little Chalfont  
Buckinghamshire  
HP7 9NA United Kingdom  
+44 1494 508000

Cytiva USA  
100 Results Way  
Marlborough, MA 01752  
1-800-526-3593

In case of emergency

INFOTRAC - 24 Hour number: 1-800-535-5053  
Outside of the United States, call 24 Hour number: 001-352-323-3500 (Call Collect)

## Section 2. Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance  
or mixture

SKIN CORROSION/IRRITATION - Category 1  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] -  
Category 3  
AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Causes severe skin burns and eye damage.  
May cause respiratory irritation.  
Toxic to aquatic life with long lasting effects.

### Precautionary statements

Prevention

Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling.



<b>Response</b>	Collect spillage. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. 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 or physician.
<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazards not otherwise classified</b>	None known.
<b>Hazards identified when used</b>	No known significant effects or critical hazards.

### Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	Mixture
<b>Other means of identification</b>	Not available.

<b>Ingredient name</b>	<b>Synonyms</b>	<b>%</b>	<b>Identifiers</b>
TCA (ISO)	trichloroacetic acid; Acetic acid, 2,2,2-trichloro-; Acetic acid, trichloro-; Trichloroethanoic acid; TCA; Trichloroacetic acid, 30%; Aceto-caustic	≥5 - ≤10	CAS: 76-03-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

### Section 4. First aid measures

#### Description of necessary first aid measures

<b>Eye contact</b>	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
<b>Inhalation</b>	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Ingestion</b>	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

<b>Eye contact</b>	Causes serious eye damage.
<b>Inhalation</b>	May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	Causes severe burns.
<b>Ingestion</b>	May cause burns to mouth, throat and stomach.

##### Over-exposure signs/symptoms

<b>Eye contact</b>	Adverse symptoms may include the following: pain watering redness
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<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Skin contact</b>	Adverse symptoms may include the following: pain or irritation redness blistering may occur
<b>Ingestion</b>	Adverse symptoms may include the following: stomach pains
<b><u>Indication of immediate medical attention and special treatment needed, if necessary</u></b>	
<b>Notes to physician</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Specific treatments</b>	No specific treatment.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)****Section 5. Fire-fighting measures****Extinguishing media**

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds carbonyl halides metal oxide/oxides
<b>Special protective actions for fire-fighters</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Section 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Methods and materials for containment and cleaning up**

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.



Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store between the following temperatures: 20 to 25°C (68 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
TCA (ISO)	<b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 1 ppm. TWA 10 hours: 7 mg/m³. <b>CAL OSHA PEL (United States, 1/2025)</b> TWA 8 hours: 5 mg/m³. TWA 8 hours: 1 ppm. <b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 1 ppm. TWA 8 hours: 7 mg/m³. <b>ACGIH TLV (United States, 1/2024) A3.</b> TWA 8 hours: 0.5 ppm.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

<b>Respiratory protection</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
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## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	1
<b>Melting point/freezing point</b>	Not available.
<b>Boiling point or initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not applicable.
<b>Burning time</b>	Not applicable.
<b>Burning rate</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Flammability</b>	Not available.
<b>Lower and upper explosive (flammable) limits</b>	Not available.
<b>Vapor pressure</b>	Not available.

### Vapor Pressure at 20°C

### Vapor pressure at 50°C

	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	water	17.5	2.3				
	TCA (ISO)	0.06	0.008				

**Relative vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

### Media

cold water  
hot water

### Result

Easily soluble  
Easily soluble

**Solubility in water** Not available.

**Partition coefficient: n-octanol/ water** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**SADT** Not available.

**Viscosity** Not available.

**Flow time (ISO 2431)** Not available.

### Particle characteristics

**Median particle size** Not applicable.

## Section 10. Stability and reactivity

**Reactivity** No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** The product is stable.

**Possibility of hazardous reactions** Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** No specific data.

**Incompatible materials** Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.  
Reactive or incompatible with the following materials:  
alkalis

**Hazardous decomposition products** Under normal conditions of storage and use, hazardous decomposition products should not be produced.



Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.	
Conclusion/Summary [Product]	Not available.
Ingredient name	Conclusion/Summary
TCA (ISO)	ACGIH : Proven animal carcinogenic substance of potential relevance to humans.

Skin corrosion/irritation

Product/ingredient name	Result
TCA (ISO)	Human - Skin - Severe irritant Duration of treatment/exposure: 24 hours Amount/concentration applied: 35 pph
Conclusion/Summary [Product]	Corrosive to the skin.

Serious eye damage/eye irritation

Not available.	
Conclusion/Summary [Product]	Corrosive to eyes.

Respiratory corrosion/irritation

Not available.	
Conclusion/Summary [Product]	May cause respiratory irritation.

Respiratory or skin sensitization

Not available.

Skin	
Conclusion/Summary [Product]	Not available.

Respiratory	
Conclusion/Summary [Product]	Not available.

Germ cell mutagenicity

Not available.	
Conclusion/Summary [Product]	Not available.

Carcinogenicity

Not available.	
Conclusion/Summary [Product]	Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
TCA (ISO)	-	2B	-

Reproductive toxicity

Not available.

<b>Conclusion/Summary [Product]</b>	Not available.
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**Specific target organ toxicity (single exposure)**

Product/ingredient name	Result
TCA (ISO)	-

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

<b>Information on the likely routes of exposure</b>	Routes of entry anticipated: Oral, Dermal, Inhalation.
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**Potential acute health effects**

<b>Eye contact</b>	Causes serious eye damage.
<b>Inhalation</b>	May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	Causes severe burns.
<b>Ingestion</b>	May cause burns to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Eye contact</b>	Adverse symptoms may include the following: pain watering redness
<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Skin contact</b>	Adverse symptoms may include the following: pain or irritation redness blistering may occur
<b>Ingestion</b>	Adverse symptoms may include the following: stomach pains

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

<b>Potential immediate effects</b>	Corrosive to eyes and skin.
<b>Potential delayed effects</b>	Not available.

**Long term exposure**

<b>Potential immediate effects</b>	May cause respiratory irritation.
<b>Potential delayed effects</b>	Not available.

**Potential chronic health effects**

Not available.

<b>Conclusion/Summary [Product]</b>	Not available.
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<b>General</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	No known significant effects or critical hazards.

**Numerical measures of toxicity****Acute toxicity estimates**

N/A



Section 12. Ecological information

Toxicity

Product/ingredient name	Result
TCA (ISO)	<b>Acute - EC50 - Fresh water</b> Daphnia - Water flea - <i>Daphnia magna</i> - Neonate Age: <24 hours 146 mg/l [48 hours] Effect: Intoxication <b>Acute - LC50 - Fresh water</b> Fish - Trout Family - <i>Salmonidae</i> - Fry 1050 mg/l [96 hours] Effect: Mortality <b>Acute - EC50 - Fresh water</b> OECD Algae - Green algae - <i>Desmodesmus subspicatus</i> - Exponential growth phase 4.7 mg/l [72 hours] Effect: Population <b>Chronic - NOEC - Fresh water</b> OECD Algae - Green algae - <i>Desmodesmus subspicatus</i> - Exponential growth phase 3 mg/l [72 hours] Effect: Population <b>Chronic - NOEC - Fresh water</b> OECD Daphnia - Water flea - <i>Daphnia magna</i> Age: <24 hours 285 mg/l [21 days] Effect: Mortality <b>Chronic - NOEC - Marine water</b> OECD Fish - Sheepshead minnow - <i>Cyprinodon variegatus</i> - Embryo 235 mg/l [32 days] Effect: Mortality
Conclusion/Summary [Product]	Toxic to aquatic life with long lasting effects.

Persistence and degradability

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
TCA (ISO)	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
TCA (ISO)	1.33	1.7	Low

Mobility in soil












Soil/Water partition coefficient	Not available.
Other adverse effects	No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification
UN number	UN2564	UN2564	UN2564
UN proper shipping name	Trichloroacetic acid solution (TCA (ISO), solution)	Trichloroacetic acid solution (TCA (ISO), solution)	Trichloroacetic acid solution (TCA (ISO), solution)
Transport hazard class(es)	8	8	8
	 	 	 
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	Yes.
Additional information	-	-	-
	ADR/RID	IMDG	IATA
UN number	UN2564	UN2564	UN2564
UN proper shipping name	Trichloroacetic acid solution (TCA (ISO), solution)	Trichloroacetic acid solution (TCA (ISO), solution)	Trichloroacetic acid solution (TCA (ISO), solution)
Transport hazard class(es)	8	8	8
	 	 	
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	No.
Additional information	<u>Tunnel code</u> E	-	-
Special precautions for user	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.		
Transport in bulk according to IMO instruments	Not available.		
Proper shipping name	Not available.		

## Section 15. Regulatory information

U.S. Federal regulations TSCA 8(a) CDR Exempt/Partial exemption: Not determined

TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances Not listed

Clean Air Act Section 602 Class II Substances Not listed

DEA List I Chemicals (Precursor Chemicals) Not listed

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

SARA 311/312

Classification SKIN CORROSION - Category 1  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Composition/information on ingredients

Name	%
TCA (ISO)	9

Classification

SKIN CORROSION - Category 1A  
EYE IRRITATION - Category 2A  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3



**State regulations**

<b>Massachusetts</b>	The following components are listed: TRICHLOROACETIC ACID
<b>New York</b>	None of the components are listed.
<b>New Jersey</b>	The following components are listed: TRICHLOROACETIC ACID; ACETIC ACID, TRICHLORO-; TCA
<b>Pennsylvania</b>	The following components are listed: ACETIC ACID, TRICHLORO-

**California Prop. 65**

**⚠ WARNING:** This product contains a chemical known to the State of California to cause cancer.

<b>Ingredient name</b>	<b>No significant risk level</b>	<b>Maximum acceptable dosage level</b>
TCA (ISO)	No.	No.

**International regulations****Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

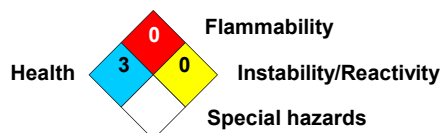
Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

<b>United States</b>	All components are listed or exempted.
<b>Canada inventory</b>	All components are listed or exempted.

**Section 16. Other information****National Fire Protection Association (U.S.A.)****Procedure used to derive the classification**

<b>Classification</b>	<b>Justification</b>
SKIN CORROSION - Category 1	On basis of test data
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

**History**

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	sds_author@cytiva.com

**Key to abbreviations**

ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 UN = United Nations  
 Not available.

**References**

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

