

**Section 1-Identification of Product**

9721G

WHMIS Classification Health: 3 Fire: 2 Stability: 1

**Contact Information**

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Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Phenol	~30-40	108-95-2	Oral rat LD50: 317 mg/Kg	316 mg/m3
Chloroform	~10-20	67-66-3	Oral rat LD50: 908 mg/kg	47702 mg/m3/4H

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Harmful if absorbed through the skin. Direct skin contact may result in white, wrinkled discoloration, followed by severe burns. Phenol solutions may be absorbed through the skin rapidly to cause systemic poisoning and possible death.
Skin Absorption	Harmful if absorbed through the skin. Direct skin contact may result in white, wrinkled discoloration, followed by severe burns. Phenol solutions may be absorbed through the skin rapidly to cause systemic poisoning and possible death.
Eye Contact	Causes eye irritation and possible burns. May cause chemical conjunctivitis and corneal damage.
Inhalation	May be fatal if exposed to high concentrations. May cause severe respiratory tract irritation and possible burns. Aspiration may lead to pulmonary edema. May also cause pallor, loss of appetite, nausea, vomiting, diarrhea, weakness, darkened urine, headache, sweating, convulsions, cyanosis, unconsciousness, fatigue, pulmonary edema and coma. May cause systemic effects. Inhalation at high concentrations may cause CNS depression and asphyxiation. Acts as a relatively potent anesthetic. Irritates respiratory tract and causes central nervous system effects, including headache, drowsiness, and dizziness. Exposure to higher concentrations may result in unconsciousness and even death. May cause liver injury and blood disorders. Prolonged exposure may lead to death due to irregular heartbeat and kidney and liver disorders.
Ingestion	Harmful if swallowed. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause systemic effects. Causes digestive tract irritation with possible burns. Causes severe burning in mouth and throat, pain in the chest and vomiting. Large quantities may cause symptoms similar to inhalation.

[Emergency Overview]

**TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.**

WHMIS Symbols

N.A.

[Potential Health Effects]

Human poison by ingestion. An experimental poison by ingestion, subcutaneous, intravenous, parenteral, and intraperitoneal routes. Moderately toxic by skin contact. A severe eye and skin irritant. Questionable carcinogen with experimental carcinogenic and neoplastigenic data. Human mutation data reported. An experimental teratogen. Other experimental reproductive effects. Absorption of phenolic solutions through the skin may be very rapid, and can cause death within 30 minutes to several hours by exposure of as little as 64 square inches of skin. Lesser exposures can cause damage to the kidneys, liver, pancreas, and spleen, and edema of the lungs. Ingestion can cause corrosion of the lips, mouth, throat, esophagus, and stomach, and gangrene. Ingestion of 1.5 g has killed. Chronic exposures can cause death from liver and kidney damage. Dermatitis resulting from contact with phenol or phenol-containing products is

fairly common in industry. A common air contaminant. Combustible when exposed to heat, flame, or oxidizers. Potentially explosive reaction with aluminum chloride + nitromethane (at 110°C/100 bar), formaldehyde, peroxydisulfuric acid, peroxymonosulfuric acid, sodium nitrite + heat. Violent reaction with aluminum chloride + nitrobenzene (at 120°C), sodium nitrate + trifluoroacetic acid, butadiene. Can react with oxidizing materials. To fight fire, use alcohol foam, CO2, dry chemical. When heated to decomposition it emits acrid smoke and irritating fumes

Confirmed carcinogen with experimental carcinogenic, neoplastigenic, and tumorigenic data. A human poison by ingestion and inhalation. An experimental poison by ingestion and intravenous routes. Moderately toxic experimentally by intraperitoneal and subcutaneous routes. Human systemic effects by inhalation: hallucinations and distorted perceptions, nausea, vomiting, and other unspecified gastrointestinal effects. Human mutation data reported. Experimental teratogenic and reproductive effects. Inhalation of the concentrated vapor causes dilation of the pupils with reduced reaction to light, as well as reduced intraocular pressure (experimental). In the initial stages there is a feeling of warmth of the face and body, then an irritation of the mucous membranes, conjunctiva, and skin; followed by excitation, loss of reflexes, sensation, and consciousness. Prolonged inhalation will bring on paralysis accompanied by cardiac-respiratory failure and finally death.

Chloroform has been widely used as an anesthetic. However, due to its toxic effects, this use is being abandoned. Concentrations of 68,000–82,000 ppm in air can kill most animals in a few minutes. 14,000 ppm may cause death after an exposure of from 30 to 60 minutes. 5000–6000 ppm can be tolerated by animals for 1 hour without serious disturbances. The maximum concentration tolerated for several hours or for prolonged exposure with slight symptoms is 2000–2500 ppm. Prolonged administration as an anesthetic may lead to such serious effects as profound toxemia and damage to the liver, heart, and kidneys. Experimental prolonged but light anesthesia in dogs produces a typical hepatitis. Explosive reaction with sodium + methanol or sodium methoxide + methanol. Mixtures with sodium or potassium are impact-sensitive explosives. Reacts violently with acetone + alkali (e.g., sodium hydroxide, potassium hydroxide, or calcium hydroxide), Al, disilane, Li, Mg, methanol + alkali, nitrogen tetroxide, perchloric acid + phosphorus pentoxide, potassium-tert-butoxide, sodium methylate, NaK. Incompatible with dinitrogen tetroxide, fluorine, metals, or trisopropylphosphine. Nonflammable. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup>

**Section 4-First Aid Measures**

Skin Contact	Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.
Inhalation	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.
Ingestion	Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Note to Physician:	Because kidney and liver effects may be delayed, keep victim under observation for 24 to 48 hr. Administration of fluids may help to prevent kidney failure. Obtain blood glucose, Urinalysis, liver function tests, chest x-ray, and monitor cardiac function and fluoridelectrolyte status. Monitor liver and kidney function for 4 to 5 days after exposure. Disulfiram, its metabolites, and a high carbohydrate diet appear to protect somewhat against chloroform toxicity. Do not give adrenalin! Tests may show increased bilirubin, ketosis, lowered blood prothombin, and fibrogen.

**Section 5-Fire Fighting Measures**

Flammable	Flammable
Means of Extinction	CO2, H2O, Foam, Dry Chemical
Flashpoint (°C) and Method	Not Tested.
Upper Flammable Limit (% by volume)	Not Tested
Lower Flammable Limit (% by volume)	Not Tested.
Autoignition Temperature (°C)	Not Tested.
Explosion Data – Sensitivity to Impact	Not Tested
Explosion Data – Sensitivity to Static Discharge	Not Tested
Hazardous Combustion Products	Not Tested
NFPA	Health: 3 Fire: 2 Stability: 1

**Section 6-Accidental Release Measures**

Leak and Spill Procedures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

**Section 7-Handling and Storage**

Handling Procedures and Equipment	Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace.
Storage Requirements	Keep in a tightly closed light-resistant container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels.

**Section 8-Exposure Control/Personal Protection**

Exposure Limits	
ACGIH TLV	Phenol - 5 ppm TWA; skin - potential for cutaneous absorption Chloroform - 10 ppm TWA
OSHA PEL	Phenol - 5 ppm TWA; 19 mg/m3 TWA Chloroform - 50 ppm Ceiling; 240 mg/m3 Ceiling
Other (specify)	N.A.

**Engineering Controls (specific)**

General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details.
Other	N.A.

**Personal Protective Equipment (specific)**

Gloves	Neoprene gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	Chemical fume hood, face shield

**Section 9-Physical and Chemical Properties**

Physical State	Liquid
Odor and Appearance	Strong / White- off white
Odor Threshold (ppm)	Not Tested
Specific Gravity	Not Tested
Vapor Density (Air=1)	Not Tested
Vapor Pressure (mmHg)	Not Tested
Evaporation Rate	Not Tested
Boiling Point (°C)	Not Tested
Freezing Point (°C)	Not Tested
pH	4.5
Coefficient of Water/Oil Distribution	Not Tested
[Solubility in Water]	Not Tested

**Section 10-Stability and Reactivity**

Chemical Stability	Stable
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Incompatible with other substances	Aluminum chloride, nitrobenzene, peroxomonosulfuric acid, peroxydisulfuric acid, calcium hypochlorite, sodium nitrite, acetaldehyde, 1,3-butadiene, boron trifluoride diethyl ether, strong oxidizing agents, isocyanates, nitrides (e.g. potassium nitride, sodium nitride), acids, sodium + methanol, sodium methoxide + methanol, sodium, potassium, acetone + alkali, aluminum, disilane, lithium, magnesium, potassium-tert -butoxide, sodium methylate, dinitrogen tetroxide, fluorine, metals, triisopropylphosphine, reducing agents, hydrogen trisulfide, acid anhydrides, acid chlorides.
Reactivity	Not Tested
Hazardous Decomposition Products	Hydrogen chloride, phosgene, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, chlorine.

**Section 11-Toxicological Information**

Acute Effects	Harmful if inhaled, swallowed, or absorbed through skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical Phenumonitis and Pulmonary Edema.
Chronic Effects	May cause cancer
Irritancy of Product	Eyes, skin, respiratory, gastrointestinal
Skin Sensitization	Not Tested
Respiratory Sensitization	Not Tested

**Carcinogenicity**

IARC (1,2A, or 2B)	CAS# 108-95-2: IARC Group 3 - not classifiable CAS# 67-66-3:
ACGIH (A1, A2, or A3)	A4 - Not Classifiable as a Human Carcinogen A3 - Animal Carcinogen
Reproductive Toxicity	CAS# 108-95-2: Oral, rat: TDLo = 300 mg/kg (female 6-15 day(s) after conception) Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)
Teratogenicity	CAS# 108 -95-2: Oral, rat: TDLo = 1200 mg/kg (female 6-15 day(s) after conception) Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus); Oral, mouse: TDLo = 4 gm/kg (female 6-15 day(s) after conception) Specific Developmental Abnormalities - musculoskeletal system.
Embryotoxicity	No Information
Mutagenicity	CAS# 108-95-2: Mutation Test Systems - not otherwise specified: Human, HeLa cell = 17 mg/L.; DNA Inhibition: Human, HeLa cell = 1 mmol/L.; Mutation Test Systems – not otherwise specified: Human, Lymphocyte = 5 umol/L.; Sister Chromatid Exchange: Human,
Name of Synergistic Products/Effects	N.A.

**Section 12-Ecological Information**

Aquatic Toxicity	Water flea Daphnia: EC50=12 mg/l; 48 -hour; CAS# 108-95-2: Unspecified flea Daphnia: EC50=4.0 mg/l; 96-hour; CAS# 108-95-2: Unspecified Fathead Minnow: LC50 > 50 mg/l; 1 Hr; CAS# 108-95-2 Static @ 18-22°C Fathead Minnow: TLm = 41 mg/L; 48-hour; CAS# 108-95-2: Flow-through @ 15°C Bluegill/Sunfish: TLm = 19 / 5.7 mg/L; 96 Hr; CAS# 108-95-2: Flow-through If released to the environment, phenol's primary removal mechanism is biodegradation, which is generally rapid (days). If phenol is released to soil, it will readily leach and biodegrade. The biodegradation in soil is generally rapid with half-lives of under 5 days even in subsurface soils.
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**Section 13-Disposal Considerations**

Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
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**Section 14-Transport Information**

<b>Special Shipping Information</b>	
PIN	Not listed
TDG	Not listed

[DOT]	Proper Shipping Name: Toxic, liquids, organic, n.o.s. UN#: 2810 Class: 6.1 Packing Group: Packing Group II Hazard Label: Toxic substances.
[IMO]	Proper Shipping Name: Toxic, liquids, organic, n.o.s. UN#: 2810 Class: 6.1 Packing Group: Packing Group II Hazard Label: Toxic substances.
[ICAO]	Not listed

**Section 15-Regulatory Information**

[WHMIS Classification]	
[OSHA]	Phenol - CAS# 108-95-2: Effective Date: 6/1/87; Sunset Date: 6/1/97 Chloroform - CAS# 67-66-3: Effective Date: 6/1/87; Sunset Date: 6/1/97
[SARA]	Phenol - CAS# 108-95-2: 500 lb TPQ (lower threshold); 10,000 lb TPQ (upper threshold); 1000 lb EPCRA RQ Phenol - 108-95-2: acute, chronic, flammable. Phenol - This material contains Phenol (CAS# 108-95-2, 52 0%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373. Chloroform - CAS# 67-66-3: 10,000 lb TPQ; 10 lb EPCRA RQ Chloroform - CAS # 67-66-3: acute, chronic. Chloroform - This material contains Chloroform (CAS# 67-66-3, 46 0%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
[TSCA]	Phenol - CAS# 108-95-2 is listed on the TSCA inventory. Chloroform - 67-66-3 is listed on the TSCA inventory.

**Section 16-Other Information**

This bulletin is for your guidance and is based upon information and tests believed to be reliable. Ambion makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

**Section 1-Identification of Product**

8550G4  
 WHMIS Classification Health: 3 Fire: 2 Stability: 2

**Contact Information**

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Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Formamide	~52	75-12-7	Oral ratLD50: 5570 mg/kg	N.A.
Formaldehyde	24	50-00-0	Oral ratLD50: 100 mg/kg	N.A.
MOPS	~1	132-61-2	N.A.	N.A.

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Toxic-Causes skin irritation
Skin Absorption	Toxic-Causes skin irritation
Eye Contact	Causes irritation, redness, pain, and blurred vision. May cause irreversible eye damage.
Inhalation	Causes irritation and sensitization of the respiratory tract. May be fatal in high concentrations.
Ingestion	Causes irritation to the gastrointestinal tract, severe abdominal pain, violent vomiting, headache, and diarrhea. Larger doses may produce decreased body temperature, pain in the digestive tract, shallow respiration, weak irregular pulse, unconsciousness and death.

[Emergency Overview]

**POISON! DANGER! SUSPECT CANCER HAZARD. MAY CAUSE CANCER. RISK OF CANCER DEPENDS ON LEVEL AND DURATION OF EXPOSURE. VAPOR HARMFUL. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. STRONG SENSITIZER. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CANNOT BE MADE NONPOISONOUS. FLAMMABLE LIQUID AND VAPOR.**

WHMIS Symbols

N.A.

[Potential Health Effects]

Poison by skin contact and subcutaneous routes. Moderately toxic by ingestion, intraperitoneal, and intramuscular routes. An irritant to skin, eyes, and mucous membranes. Experimental teratogenic and reproductive effects. An eye irritant. Mutation data reported. Combustible when exposed to heat or flame; can react vigorously with oxidizing materials. Incompatible with I2, pyridine, SO3. When heated to decomposition it emits toxic fumes of NOx. Has exploded while in storage. Confirmed carcinogen with experimental carcinogenic, tumorigenic, and teratogenic data. Human poison by ingestion. Experimental poison by ingestion, skin contact, inhalation, intravenous, intraperitoneal, and subcutaneous routes. Human systemic effects by inhalation: lachrymation, olfactory changes, aggression, and pulmonary changes. Experimental reproductive effects. Human mutation data reported. A human skin and eye irritant. If swallowed it causes violent vomiting and diarrhea that can lead to collapse. Frequent or prolonged exposure can cause hypersensitivity leading to contact dermatitis, possibly of an eczematoid nature. An air concentration of 20 ppm is quickly irritating to eyes

**Section 4-First Aid Measures**

Skin Contact	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Eye Contact	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Inhalation	Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not Breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.
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**Section 5-Fire Fighting Measures**

Flammable	Flammable
Means of Extinction	All but H2O and Foam
Flashpoint (°C) and Method	Not tested
Upper Flammable Limit (% by volume)	Not tested
Lower Flammable Limit (% by volume)	Not tested
Autoignition Temperature (°C)	Not tested
Explosion Data – Sensitivity to Impact	Not tested
Explosion Data – Sensitivity to Static Discharge	Not tested
Hazardous Combustion Products	Not tested
NFPA	Health: 3 Fire: 1 Stability: 2

**Section 6-Accidental Release Measures**

Leak and Spill Procedures	Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal.
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**Section 7-Handling and Storage**

Handling Procedures and Equipment	Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.
Storage Requirements	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**Section 8-Exposure Control/Personal Protection**

Exposure Limits	
ACGIH TLV	None listed
OSHA PEL	None listed
Other (specify)	N.A.

**Engineering Controls (specific)**

General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details.
Other	N.A.

**Personal Protective Equipment (specific)**

Gloves	Synthetic gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	N.A.

**Section 9-Physical and Chemical Properties**

Physical State	Liquid
Odor and Appearance	Colorless/ pungent
Odor Threshold (ppm)	Not tested

Specific Gravity	Not tested
Vapor Density (Air=1)	Not tested
Vapor Pressure (mmHg)	Not tested
Evaporation Rate	Not tested
Boiling Point (°C)	Not tested
Freezing Point (°C)	Not tested
pH	Not tested
Coefficient of Water/Oil Distribution	Not tested
[Solubility in Water]	Not tested

**Section 10-Stability and Reactivity**

<b>Chemical Stability</b>	Stable
Incompatible with other substances	Incompatible with oxidizing agents and alkalis. Reacts explosively with nitrogen dioxide at ca. 180C (356F). Reacts violently with perchloric acid, perchloric acid-aniline mixtures, and nitromethane. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen. Acids, alkalines, iodine, pyridine, and sulfur trioxide.
<b>Reactivity</b>	Not tested
Hazardous Decomposition Products	May form carbon dioxide, carbon monoxide, oxides of nitrogen, oxides of sulfur, ammonia, and formaldehyde when heated to decomposition.

**Section 11-Toxicological Information**

Acute Effects	Not tested
Chronic Effects	Not tested
Irritancy of Product	Eyes, skin, respiratory, gastrointestinal
Skin Sensitization	Strong
Respiratory Sensitization	Strong

**Carcinogenicity**

IARC (1,2A, or 2B)	2A
ACGIH (A1, A2, or A3)	Anticipated
Reproductive Toxicity	Not tested
Teratogenicity	Not tested
Embryotoxicity	Not tested
Mutagenicity	Not tested
Name of Synergistic Products/Effects	Not tested

**Section 12-Ecological Information**

Aquatic Toxicity	None tested
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**Section 13-Disposal Considerations**

Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
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**Section 14-Transport Information**

**Special Shipping Information**

PIN	Not regulated
TDG	Not regulated
[DOT]	Not regulated
[IMO]	Not regulated
[ICAO]	Not regulated

**Section 15-Regulatory Information**

[WHMIS Classification]	N.A.
[OSHA]	N.A.
[SARA]	CAS #: 75-12-7 –Acute. CAS #: 50-00-0-Acute: Yes. Chronic: Yes.Fire: Yes CAS #: 132-61-2-not listed
[TSCA]	CAS #: 75-12-7-listed. CAS #: 50-00-00-listed. CAS #: 132-61-2-listed

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**Section 16-Other Information**

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**Section 1-Identification of Product**

2230G1  
 WHMIS Classification Health: 1 Fire: 1 Stability: 0

**Contact Information**

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Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Glycerol	50	56-81-5	Oral-Rat LD50: 12,600 mg/kg	Inhalation, rat: >570 mg/m3/1H

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Causes skin irritation
Skin Absorption	Causes skin irritation
Eye Contact	Causes eye irritation
Inhalation	Causes respiratory irritation
Ingestion	Causes gastrointestinal irritation

[Emergency Overview]

**Caution! May cause eye and skin irritation. May cause respiratory and digestive tract irritation. This is expected to be a low hazard for usual industrial handling.**

WHMIS Symbols

N.A.

[Potential Health Effects]

Poison by subcutaneous route. Mildly toxic by ingestion. Human systemic effects by ingestion: headache and nausea or vomiting. Experimental reproductive effects. Human mutation data reported. A skin and eye irritant. In the form of mist it is a nuisance particulate and inhalation irritant. Combustible liquid when exposed to heat, flame, or powerful oxidizers. Mixtures with hydrogen peroxide are highly explosive. Ignites on contact with potassium permanganate, calcium hypochlorite. Mixture with nitric acid + sulfuric acid forms the explosive glyceryl nitrate. Mixture with perchloric acid + lead oxide forms explosive perchlorate esters. Confined mixture with chlorine explodes if heated to 70–80°. Can react violently with acetic anhydride, aniline + nitrobenzene, Ca(OCl)<sub>2</sub>, CrO<sub>3</sub>, Cr<sub>2</sub>O<sub>3</sub>, F<sub>2</sub> + PbO, phosphorus triiodide, ethylene oxide + heat, KMnO<sub>4</sub>, K<sub>2</sub>O<sub>2</sub>, AgClO<sub>4</sub>, Na<sub>2</sub>O<sub>2</sub>, NaH. Energetic reaction with sodium hydride. Mixture with nitric acid + hydrofluoric acid is a storage hazard due to gas evolution. To fight fire, use alcohol foam, CO<sub>2</sub>, dry chemical. When heated to decomposition it emits acrid smoke and fumes.

**Section 4-First Aid Measures**

Skin Contact	Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Eye Contact	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.
Inhalation	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
Ingestion	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.

**Section 5-Fire Fighting Measures**

Flammable	Slightly flammable
Means of Extinction	Use water spray to cool fire-exposed containers. Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flashpoint (°C) and Method	Not tested
Upper Flammable Limit (% by volume)	Not tested
Lower Flammable Limit (% by volume)	Not tested
Autoignition Temperature (°C)	Not tested

Explosion Data – Sensitivity to Impact	Not tested
Explosion Data – Sensitivity to Static Discharge	Not tested
Hazardous Combustion Products	Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
NFPA	Health: 1 Fire: 1 Stability: 0

**Section 6-Accidental Release Measures**

**Leak and Spill Procedures**

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal.

**Section 7-Handling and Storage**

Handling Procedures and Equipment	Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse
Storage Requirements	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**Section 8-Exposure Control/Personal Protection**

**Exposure Limits**

ACGIH TLV	10 mg/m3 TWA
OSHA PEL	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Other (specify)	N.A.

**Engineering Controls (specific)**

General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details
Other	N.A.

**Personal Protective Equipment (specific)**

Gloves	Synthetic Gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	N.A.

**Section 9-Physical and Chemical Properties**

Physical State	Liquid
Odor and Appearance	Clear
Odor Threshold (ppm)	Not Available
Specific Gravity	Not Available
Vapor Density (Air=1)	Not Available
Vapor Pressure (mmHg)	Not Available
Evaporation Rate	Not Available
Boiling Point (°C)	Not Available
Freezing Point (°C)	Not Available
pH	Not Available
Coefficient of Water/Oil Distribution	Not Available
[Solubility in Water]	Not Available

Section 10-Stability and Reactivity	
Chemical Stability	Stable
Incompatible with other substances	Acetic anhydride, potassium permanganate, strong acids, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), isocyanates, oxidizing agents, aliphatic amines
Reactivity	Not Available
Hazardous Decomposition Products	Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Section 11-Toxicological Information	
Acute Effects	Not Tested
Chronic Effects	Not Tested
Irritancy of Product	Eyes, skin, respiratory, gastrointestinal
Skin Sensitization	Not Tested
Respiratory Sensitization	Not Tested

Carcinogenicity	
IARC (1,2A, or 2B)	Not Listed
ACGIH (A1, A2, or A3)	Not Listed
Reproductive Toxicity	No information available
Teratogenicity	No information available
Embryotoxicity	No information available
Mutagenicity	No information available
Name of Synergistic Products/Effects	No information available

Section 12-Ecological Information	
Aquatic Toxicity	LC50 (96 Hr.) rainbow trout = 50-67 mg/L; 12 degrees CLC50 (96 Hr.) goldfish = >5000 mg/L

Section 13-Disposal Considerations	
Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14-Transport Information	
Special Shipping Information	
PIN	No information available
TDG	No information available
[DOT]	No information available
[IMO]	No information available
[ICAO]	No information available

Section 15-Regulatory Information	
[WHMIS Classification]	Not listed
[OSHA]	Not listed
[SARA]	CAS # 56-81-5: chronic
[TSCA]	Listed

**Section 16-Other Information**

This bulletin is for your guidance and is based upon information and tests believed to be reliable. Ambion makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

**Section 1-Identification of Product**

8541G4  
 WHMIS Classification Health: 2 Fire: 0 Stability: 0

**Contact Information**

Ambion, Inc 2130 Woodward St. Austin, TX 78744-1832 Tel: +1 512 651 0200 US Toll-free Tel: 800 888 8804 E-mail: [techserv@ambion.com](mailto:techserv@ambion.com) Web address [www.ambion.com](http://www.ambion.com)

Ambion (Europe) LTD Huntingdon, Cambridgeshire UK PE29 6XY Tel:+44 (0)1480 373 020 Fax: +44 (0)1480 373 010 E-mail: [eurotech@ambion.com](mailto:eurotech@ambion.com) Web address: [www.ambion.com](http://www.ambion.com)

Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Trade secret	0-40	Trade secret	Intraperitoneal-Mouse LD50: 300 mg/kg	Not Tested
Trade secret	1-30	Trade secret	Oral rat LD50: 3530 mg/kg;	Not Tested

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material
Skin Absorption	In the presence of moisture, this material may be absorbed through the skin. May cause symptoms similar to indigestion
Eye Contact	Causes eye irritation. May cause conjunctivitis, ulceration, and turbidity of the cornea
Inhalation	May cause similar effects as indigestion. Exposure causes central nervous system depression. Causes irritation of the mucous membranes. High concentrations of thiocyanates can lead to fatal pulmonary edema.
Ingestion	May cause irritation to the digestive tract. May cause liver and kidney damage. Ingestion of thiocyanates may cause disorientation, weakness, low blood pressure, confusion, psychotic behavior, muscular spasms, convulsions, and death.

[Emergency Overview]

**WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, RESPARITORY AND GASTROINTESTINAL TRACT**

WHMIS Symbols

N.A.

[Potential Health Effects]

May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may result in allergic reactions in some people. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Poison by intravenous route. Moderately toxic by ingestion. A skin and eye irritant. Migrates to food from packaging materials. Violent reaction with F2, KNO<sub>3</sub>, diketene

**Section 4-First Aid Measures**

Skin Contact	Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do not allow victim to rub or keep eyes closed.
Inhalation	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation.
Ingestion	Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Section 5-Fire Fighting Measures**

Flammable	Not Tested
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Means of Extinction	Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flashpoint (°C) and Method	Not Tested
Upper Flammable Limit (% by volume)	Not Tested
Lower Flammable Limit (% by volume)	Not Tested
Autoignition Temperature (°C)	Not Tested
Explosion Data – Sensitivity to Impact	Not Tested
Explosion Data – Sensitivity to Static Discharge	Not Tested
Hazardous Combustion Products	Irritating and highly toxic gases may be generated by thermal decomposition or combustion.
NFPA	Not Tested

**Section 6-Accidental Release Measures**

Leak and Spill Procedures

Wash area with soap and water. Clean up spills immediately, observing precautions in the protective equipment section. Sweep up, and then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

**Section 7-Handling and Storage**

Handling Procedures and Equipment	Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.
Storage Requirements	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**Section 8-Exposure Control/Personal Protection**

Exposure Limits

ACGIH TLV	Not Listed
OSHA PEL	Not Listed
Other (specify)	N.A.

**Engineering Controls (specific)**

General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details.
Other	N.A.

**Personal Protective Equipment (specific)**

Gloves	Synthetic gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	N.A.

**Section 9-Physical and Chemical Properties**

Physical State	Liquid
Odor and Appearance	None/White
Odor Threshold (ppm)	Not Tested
Specific Gravity	Not Tested
Vapor Density (Air=1)	Not Tested
Vapor Pressure (mmHg)	Not Tested

Evaporation Rate	Not Tested
Boiling Point (°C)	Not Tested
Freezing Point (°C)	Not Tested
pH	Not Tested
Coefficient of Water/Oil Distribution	Not Tested
[Solubility in Water]	Not Tested

**Section 10-Stability and Reactivity**

Chemical Stability	Stable under normal temperatures and pressures.
Incompatible with other substances	Strong bases, strong oxidizing agents, water, and acids.
Reactivity	Not Tested
Hazardous Decomposition Products	Hydrogen cyanide, nitrogen oxides, carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide, cyanide fumes, hydrocarbons.

**Section 11-Toxicological Information**

Acute Effects	Not Listed
Chronic Effects	May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may result in allergic reactions in some people. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.
Irritancy of Product	Eye, skin, respiratory, gastrointestinal
Skin Sensitization	Yes
Respiratory Sensitization	Not Listed

**Carcinogenicity**

IARC (1,2A, or 2B)	Not Listed
ACGIH (A1, A2, or A3)	Not Listed
Reproductive Toxicity	Not Listed
Teratogenicity	Not Listed
Embryotoxicity	Not Listed
Mutagenicity	Not Listed
Name of Synergistic Products/Effects	Not Listed

**Section 12-Ecological Information**

Aquatic Toxicity	Not Tested
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**Section 13-Disposal Considerations**

Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
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**Section 14-Transport Information**

**Special Shipping Information**

PIN	Not Listed
TDG	Not Listed
[DOT]	Not Listed
[IMO]	Not Listed
[ICAO]	Not Listed

**Section 15-Regulatory Information**

[WHMIS Classification]	Not Listed
[OSHA]	Not Listed
[SARA]	Not Listed
[TSCA]	CAS #Trade secret: is listed CAS # Trade secret: listed

**Section 16-Other Information**

This bulletin is for your guidance and is based upon information and tests believed to be reliable. Ambion makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

**Section 1-Identification of Product**

8540G8  
 WHMIS Classification Health: 2 Fire: 0 Stability: 0  
 Product Use

**Contact Information**

Ambion, Inc 2130 Woodward St. Austin, TX 78744-1832 Tel: +1 512 651 0200 US Toll-free Tel: 800 888 8804 E-mail: [techserv@ambion.com](mailto:techserv@ambion.com) Web address [www.ambion.com](http://www.ambion.com)

Ambion (Europe) LTD Huntingdon, Cambridgeshire UK PE29 6XY Tel:+44 (0)1480 373 020 Fax: +44 (0)1480 373 010 E-mail: [eurotech@ambion.com](mailto:eurotech@ambion.com) Web address: [www.ambion.com](http://www.ambion.com)

Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Trade secret	30-70	Trade secret	Intraperitoneal-Mouse LD50: 300 mg/kg	Not Tested

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material
Skin Absorption	In the presence of moisture, this material may be absorbed through the skin. May cause symptoms similar to indigestion
Eye Contact	Causes eye irritation. May cause conjunctivitis, ulceration and turbidity of the cornea.
Inhalation	May cause similar effects as indigestion. Exposure causes central nervous system depression. Causes irritation of the mucous membranes. High concentrations of thiocyanates can lead to fatal pulmonary edema.
Ingestion	May cause irritation to the digestive tract. May cause liver and kidney damage. Ingestion of thiocyanates may cause disorientation, weakness, low blood pressure, confusion, psychotic behavior, muscular spasms, convulsions, and death.

[Emergency Overview]

**WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN**

WHMIS Symbols

N.A

[Potential Health Effects]

May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may result in allergic reactions in some people. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis.

**Section 4-First Aid Measures**

Skin Contact	Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do not allow victim to rub or keep eyes closed.
Inhalation	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation.
Ingestion	Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Section 5-Fire Fighting Measures**

Flammable	Nonflammable
Means of Extinction	Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flashpoint (°C) and Method	Not Tested
Upper Flammable Limit (% by volume)	Not Tested

Lower Flammable Limit (% by volume)	Not Tested
Autoignition Temperature (°C)	Not Tested
Explosion Data – Sensitivity to Impact	Not Tested
Explosion Data – Sensitivity to Static Discharge	Not Tested
Hazardous Combustion Products	Irritating and highly toxic gases may be generated by thermal decomposition or combustion.
NFPA	Not Tested
<b>Section 6-Accidental Release Measures</b>	
Leak and Spill Procedures	
Wash area with soap and water. Clean up spills immediately, observing precautions in the protective equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.	
<b>Section 7-Handling and Storage</b>	
Handling Procedures and Equipment	Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store protected from light. Discard contaminated shoes.
Storage Requirements	Do not store in direct sunlight. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light.
<b>Section 8-Exposure Control/Personal Protection</b>	
Exposure Limits	
ACGIH TLV	Not Listed
OSHA PEL	Not Listed
Other (specify)	N.A.
<b>Engineering Controls (specific)</b>	
General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details.
Other	N.A.
<b>Personal Protective Equipment (specific)</b>	
Gloves	Synthetic gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eyewash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	N.A.
<b>Section 9-Physical and Chemical Properties</b>	
Physical State	Liquid
Odor and Appearance	None/White
Odor Threshold (ppm)	Not Tested
Specific Gravity	Not Tested
Vapor Density (Air=1)	Not Tested
Vapor Pressure (mmHg)	Not Tested
Evaporation Rate	Not Tested
Boiling Point (°C)	Not Tested
Freezing Point (°C)	Not Tested

pH	Not Tested
Coefficient of Water/Oil Distribution	Not Tested
[Solubility in Water]	Not Tested

Section 10-Stability and Reactivity	
Chemical Stability	Stable under normal temperatures and pressures
Incompatible with other substances	Strong bases, strong oxidizing agents, water, and acids.
Reactivity	NA
Hazardous Decomposition Products	Hydrogen cyanide, nitrogen oxides, carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide, cyanide fumes, hydrocarbons.

Section 11-Toxicological Information	
Acute Effects	Not Listed
Chronic Effects	May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may result in allergic reactions in some people. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.
Irritancy of Product	Eyes, skin, respiratory, gastrointestinal
Skin Sensitization	Yes
Respiratory Sensitization	Yes

Carcinogenicity	
IARC (1,2A, or 2B)	Not Listed
ACGIH (A1, A2, or A3)	Not Listed
Reproductive Toxicity	Not Listed
Teratogenicity	Not Listed
Embryotoxicity	Not Listed
Mutagenicity	Not Listed
Name of Synergistic Products/Effects	Not Listed

Section 12-Ecological Information	
Aquatic Toxicity	Not Tested

Section 13-Disposal Considerations	
Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14-Transport Information	
Special Shipping Information	
PIN	Not Listed
TDG	Not Listed
[DOT]	Not Listed
[IMO]	Not Listed
[ICAO]	Not Listed

Section 15-Regulatory Information	
[WHMIS Classification]	Not Listed
[OSHA]	Not Listed
[SERA]	Not Listed
[TSCA]	CAS #Trade secret: is listed on the TSCA Inventory.

**Section 16-Other Information**

This bulletin is for your guidance and is based upon information and tests believed to be reliable. Ambion makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

**Section 1-Identification of Product**

9742G

WHMIS Classification Health: 2 Fire: 0 Stability: 0

**Contact Information**

Ambion, Inc 2130 Woodward St. Austin, TX 78744-1832 Tel: +1 512 651 0200 US Toll-free Tel: 800 888 8804 E-mail: [techserv@ambion.com](mailto:techserv@ambion.com) Web address [www.ambion.com](http://www.ambion.com)

Ambion (Europe) LTD Huntingdon, Cambridgeshire UK PE29 6XY Tel:+44 (0)1480 373 020 Fax: +44 (0)1480 373 010 E-mail: [eurotech@ambion.com](mailto:eurotech@ambion.com) Web address: [www.ambion.com](http://www.ambion.com)

Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Sodium Acetate	~40	127-09-3	Oral rat LD50: 3530 mg/kg;	Not Tested

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	May cause irritation with redness and pain.
Skin Absorption	Contact may cause irritation, redness, and pain.
Eye Contact	Contact may cause irritation, redness, and pain.
Inhalation	May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.
Ingestion	Large doses may produce abdominal pain, nausea, and vomiting.

[Emergency Overview]

**CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, RESPIRATORY, AND GASTROINTESTINAL TRACT.**

WHMIS Symbols

N.A.

[Potential Health Effects]

Poison by intravenous route. Moderately toxic by ingestion. A skin and eye irritant. Migrates to food from packaging materials. Violent reaction with F2, KNO3, diketene.

**Section 4-First Aid Measures**

Skin Contact	Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do not allow victim to rub or keep eyes closed.
Inhalation	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation.
Ingestion	Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Section 5-Fire Fighting Measures**

Flammable	Nonflammable
Means of Extinction	Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flashpoint (°C) and Method	Not Tested
Upper Flammable Limit (% by volume)	Not Tested
Lower Flammable Limit (% by volume)	Not Tested
Autoignition Temperature (°C)	Not Tested
Explosion Data – Sensitivity to Impact	Not Tested
Explosion Data – Sensitivity to Static Discharge	Not Tested
Hazardous Combustion Products	Irritating and highly toxic gases may be generated by thermal decomposition or combustion.
NFPA	Not Tested

**Section 6-Accidental Release Measures**

Leak and Spill Procedures

Wash area with soap and water. Clean up spills immediately, observing precautions in the protective equipment section. Sweep up, and then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

**Section 7-Handling and Storage**

Handling Procedures and Equipment	Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.
Storage Requirements	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**Section 8-Exposure Control/Personal Protection**

Exposure Limits	
ACGIH TLV	Not Listed
OSHA PEL	Not Listed
Other (specify)	N.A.

**Engineering Controls (specific)**

General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details.
Other	N.A.

**Personal Protective Equipment (specific)**

Gloves	Synthetic gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	N.A.

**Section 9-Physical and Chemical Properties**

Physical State	Liquid
Odor and Appearance	None/White
Odor Threshold (ppm)	Not Tested
Specific Gravity	Not Tested
Vapor Density (Air=1)	Not Tested
Vapor Pressure (mmHg)	Not Tested
Evaporation Rate	Not Tested
Boiling Point (°C)	Not Tested
Freezing Point (°C)	Not Tested
pH	4.5
Coefficient of Water/Oil Distribution	Not Tested
[Solubility in Water]	Not Tested

**Section 10-Stability and Reactivity**

Chemical Stability	Stable under normal temperatures and pressures.
Incompatible with other substances	Nitric acid, fluoride, potassium nitrate, strong oxidizers and diketene.
Reactivity	Not Tested
Hazardous Decomposition Products	Emits fumes of acetic acid upon heating and on contact with strong acids.

<b>Section 11-Toxicological Information</b>	
Acute Effects	Not Listed
Chronic Effects	May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may result in allergic reactions in some people. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.
Irritancy of Product	Eye, skin, respiratory, gastrointestinal
Skin Sensitization	Not Listed
Respiratory Sensitization	Not Listed

<b>Carcinogenicity</b>	
IARC (1,2A, or 2B)	Not Listed
ACGIH (A1, A2, or A3)	Not Listed
Reproductive Toxicity	Not Listed
Teratogenicity	Not Listed
Embryotoxicity	Not Listed
Mutagenicity	Not Listed
Name of Synergistic Products/Effects	Not Listed

<b>Section 12-Ecological Information</b>	
Aquatic Toxicity	Not Tested

<b>Section 13-Disposal Considerations</b>	
Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

<b>Section 14-Transport Information</b>	
<b>Special Shipping Information</b>	
PIN	Not Listed
TDG	Not Listed
[DOT]	Not Listed
[IMO]	Not Listed
[ICAO]	Not Listed

<b>Section 15-Regulatory Information</b>	
[WHMIS Classification]	Not Listed
[OSHA]	Not Listed
[SARA]	Acute: Yes Chronic: No Fire: No Pressure: No Reactivity: No
[TSCA]	CAS # 127-09-3 listed

**Section 16-Other Information**

This bulletin is for your guidance and is based upon information and tests believed to be reliable. Ambion makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

**Section 1-Identification of Product**

7020  
 WHMIS Classification Health: 2 Fire: 0 Stability: 1

**Contact Information**

Ambion, Inc 2130 Woodward St. Austin, TX 78744-1832 Tel: +1 512 651 0200 US Toll-free Tel: 800 888 8804 E-mail: [techserv@ambion.com](mailto:techserv@ambion.com) Web address [www.ambion.com](http://www.ambion.com)

Ambion (Europe) LTD Huntingdon, Cambridgeshire UK PE29 6XY Tel:+44 (0)1480 373 020 Fax: +44 (0)1480 373 010 E-mail: [eurotech@ambion.com](mailto:eurotech@ambion.com) Web address: [www.ambion.com](http://www.ambion.com)

Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Ammonium Sulfate	~50	7783-20-2	Oral rat LD50: 2840 mg/kg	N.A.

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Causes skin irritation
Skin Absorption	Causes skin irritation
Eye Contact	Causes irritation, redness, and pain.
Inhalation	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.
Ingestion	Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. It presents little toxicity unless large amounts are ingested, in which case, vomiting and diarrhea are likely.

[Emergency Overview]

**WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY BE HARMFUL IF SWALLOWED.**

WHMIS Symbols

N.A.

[Potential Health Effects]

Moderately toxic by several routes. Human systemic effects by ingestion: hypermotility, diarrhea, nausea or vomiting. See also SULFATES. Incandescent reaction on heating with potassium chlorate. Reaction with sodium hypochlorite gives the unstable explosive nitrogen trichloride. Incompatible with (K + NH<sub>4</sub>NO<sub>3</sub>), KNO<sub>2</sub>, (NaK + NH<sub>4</sub>NO<sub>3</sub>). When heated to decomposition it emits very toxic fumes of NO<sub>x</sub>, NH<sub>3</sub>, and SO<sub>x</sub>.

**Section 4-First Aid Measures**

Skin Contact	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Eye Contact	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Inhalation	Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not Breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.

**Section 5-Fire Fighting Measures**

Flammable	Nonflammable
Means of Extinction	Use any means suitable for extinguishing surrounding fire.
Flashpoint (°C) and Method	Not tested
Upper Flammable Limit (% by volume)	Not tested
Lower Flammable Limit (% by volume)	Not tested
Autoignition Temperature (°C)	Not tested
Explosion Data – Sensitivity to Impact	Not tested
Explosion Data – Sensitivity to Static Discharge	Not tested
Hazardous Combustion Products	Not tested
NFPA	Health: 2 Fire: 0 Stability: 1

<b>Section 6-Accidental Release Measures</b>	
Leak and Spill Procedures	Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal.
<b>Section 7-Handling and Storage</b>	
Handling Procedures and Equipment	Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse
Storage Requirements	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
<b>Section 8-Exposure Control/Personal Protection</b>	
Exposure Limits	
ACGIH TLV	Not listed
OSHA PEL	Not listed
Other (specify)	N.A.
<b>Engineering Controls (specific)</b>	
General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details.
Other	N.A.
<b>Personal Protective Equipment (specific)</b>	
Gloves	Synthetic gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Other	N.A.
<b>Section 9-Physical and Chemical Properties</b>	
Physical State	Liquid
Odor and Appearance	Slight ammonia / Colorless
Odor Threshold (ppm)	Not tested
Specific Gravity	Not tested
Vapor Density (Air=1)	Not tested
Vapor Pressure (mmHg)	Not tested
Evaporation Rate	Not tested
Boiling Point (°C)	Not tested
Freezing Point (°C)	Not tested
pH	Not tested
Coefficient of Water/Oil Distribution	Not tested
[Solubility in Water]	Not tested
<b>Section 10-Stability and Reactivity</b>	
Chemical Stability	Stable

Incompatible with other substances	Sodium hypochlorite, potassium plus ammonium nitrate, potassium chlorate, potassium nitrite, and sodium-potassium powder plus ammonium nitrate, and other strong oxidizers.
Reactivity	Not tested
Hazardous Decomposition Products	May emit ammonia, oxides of sulfur, oxides of nitrogen, and oxides of carbon.

**Section 11-Toxicological Information**

Acute Effects	Not tested
Chronic Effects	Not tested
Irritancy of Product	Eyes, skin, respiratory, gastrointestinal
Skin Sensitization	Not tested
Respiratory Sensitization	Not tested

**Carcinogenicity**

IARC (1,2A, or 2B)	Not listed
ACGIH (A1, A2, or A3)	Not listed
Reproductive Toxicity	Not listed
Teratogenicity	Not listed
Embryotoxicity	Not listed
Mutagenicity	Not listed
Name of Synergistic Products/Effects	Not listed

**Section 12-Ecological Information**

Aquatic Toxicity	No information found.
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**Section 13-Disposal Considerations**

Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
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**Section 14-Transport Information**

**Special Shipping Information**

PIN	Not listed
TDG	Not listed
[DOT]	Not listed
[IMO]	Not listed
[ICAO]	Not listed

**Section 15-Regulatory Information**

[WHMIS Classification]	Not listed
[OSHA]	Not listed
[SARA]	Not listed
[TSCA]	Listed

**Section 16-Other Information**

This bulletin is for your guidance and is based upon information and tests believed to be reliable. Ambion makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.

**Section 1-Identification of Product**

8175G

WHMIS Classification

Health: 1 Fire: 1 Stability: 0

**Contact Information**

Ambion, Inc 2130 Woodward St. Austin, TX 78744-1832 Tel: +1 512 651 0200 US Toll-free Tel: 800 888 8804 E-mail: [techserv@ambion.com](mailto:techserv@ambion.com) Web address [www.ambion.com](http://www.ambion.com)

Ambion (Europe) LTD Huntingdon, Cambridgeshire UK PE29 6XY Tel:+44 (0)1480 373 020 Fax: +44 (0)1480 373 010 E-mail: [eurotech@ambion.com](mailto:eurotech@ambion.com) Web address: [www.ambion.com](http://www.ambion.com)

Emergency Contact: In Europe, call 112. In USA, call 911

**Section 2-Composition/Information**

Hazardous Ingredients (Specific)	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Trade secret	1-30	Trade secret	Oral rat: 5900 mg/kg.	N.A

**Section 3-Hazard Identification**

**Routes of Entry**

Skin Contact	Causes irritation to skin. Symptoms include redness, itching, and pain
Skin Absorption	Causes skin irritation
Eye Contact	Causes irritation, redness, and pain.
Inhalation	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Can cause nausea, headache and vomiting. Exposure may result in blood in urine, difficulty breathing, irregular heartbeat, anemia, weakness, drunkenness, bluish skin color, lung congestion, kidney damage, paralysis, convulsions unconsciousness and coma.
Ingestion	Exposure can cause nausea, headache, vomiting, diarrhea, weakness, drunkenness, restlessness, bluish skin color, paralysis and coma.

[Emergency Overview]

**WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.**

WHMIS Symbols

N.A.

[Potential Health Effects]

Moderately toxic by ingestion and intravenous routes. When heated to decomposition it emits toxic fumes of NOx

**Section 4-First Aid Measures**

Skin Contact	Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Section 5-Fire Fighting Measures**

Flammable	Not Tested
Means of Extinction	Water spray, dry chemical, alcohol foam, or carbon dioxide
Flashpoint (°C) and Method	Not Tested
Upper Flammable Limit (% by volume)	Not Tested
Lower Flammable Limit (% by volume)	Not Tested
Autoignition Temperature (°C)	Not Tested
Explosion Data – Sensitivity to Impact	Not Tested
Explosion Data – Sensitivity to Static Discharge	Not Tested
Hazardous Combustion Products	Not Tested
NFPA	Health: 1 Fire: 1 Stability: 0

<b>Section 6-Accidental Release Measures</b>	
Leak and Spill Procedures	
Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal.	
<b>Section 7-Handling and Storage</b>	
Handling Procedures and Equipment	Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
Storage Requirements	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Isolate from oxidizing materials.
<b>Section 8-Exposure Control/Personal Protection</b>	
Exposure Limits	
ACGIH TLV	Not Listed
OSHA PEL	Not Listed
Other (specify)	N.A.
<b>Engineering Controls (specific)</b>	
General	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Local Exhaust	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Other	N.A.
<b>Personal Protective Equipment (specific)</b>	
Gloves	Synthetic gloves
Respirator	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use
Eye	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Maintain eye wash fountain and quick-drench facilities in work area.
Footwear	Closed toe shoes
Clothing	Wear appropriate protective clothing to prevent skin exposure
Other	N.A.
<b>Section 9-Physical and Chemical Properties</b>	
Physical State	Liquid
Odor and Appearance	Clear
Odor Threshold (ppm)	Not Tested
Specific Gravity	Not Tested
Vapor Density (Air=1)	Not Tested
Vapor Pressure (mmHg)	Not Tested
Evaporation Rate	Not Tested
Boiling Point (°C)	Not Tested
Freezing Point (°C)	Not Tested
pH	Trade secret
Coefficient of Water/Oil Distribution	Not Tested
[Solubility in Water]	Not Tested
<b>Section 10-Stability and Reactivity</b>	
Chemical Stability	Stable under ordinary use and storage.
Incompatible with other substances	Copper, brass, aluminum, and oxidizing agents
Reactivity	Strong oxidizing agents may release chlorine.
Hazardous Decomposition Products	Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides. When heated to temperatures above 300C (572F) it emits toxic fumes of chlorine gas.
<b>Section 11-Toxicological Information</b>	
Acute Effects	Not Tested

Chronic Effects	Not Tested
Irritancy of Product	Eyes, skin, respiratory, gastrointestinal
Skin Sensitization	Not Tested
Respiratory Sensitization	Not Tested

**Carcinogenicity**

IARC (1,2A, or 2B)	Not Tested
ACGIH (A1, A2, or A3)	Not Tested
Reproductive Toxicity	Not Tested
Teratogenicity	Not Tested
Embryotoxicity	Not Tested
Mutagenicity	Not Tested
Name of Synergistic Products/Effects	Not Tested

**Section 12-Ecological Information**

Aquatic Toxicity	Not Tested
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**Section 13-Disposal Considerations**

Waste Disposal	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
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**Section 14-Transport Information**

**Special Shipping Information**

PIN	Not Listed
TDG	Not Listed
[DOT]	Not Listed
[IMO]	Not Listed
[ICAO]	Not Listed

**Section 15-Regulatory Information**

[WHMIS Classification]	Not Listed
[OSHA]	Not Listed
[SARA]	311/312: Acute
[TSCA]	Not Listed

**Section 16-Other Information**

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# SAFETY STATEMENT

This document is only available in English.



## 1. Identification of the substance/preparation and company/undertaking

Product/Kit Name: RiboPure™-Blood

Catalog #: 1928

Product/Component Name: Wash 2/3 Concentrate

Catalog Number: 9913G32

Supplier: Ambion, Inc.

Emergency Telephone Numbers:

USA: 1-800-888-8804

Europe: +44 (0) 1480 373 020

## 2. Composition/ information on ingredients

Substance/Preparation:

To the present knowledge of Ambion, Inc., this product does not contain any hazardous ingredients in quantities requiring reporting in this section, in accordance with EU regulations or National regulations.

**To Ambion's knowledge this substance/preparation is not classified as hazardous according to EU, US, or any other known national regulations.**

## 9. Physical and chemical properties

Physical State: Liquid

Color: Colorless

## 16. Other information:

To the best of Ambion's knowledge, the information contained herein is accurate. However, Ambion, Inc. does not assume 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.

This is not an MSDS. According to EU and US regulations we are not required to supply an MSDS for a product, which is not classified as hazardous.

# SAFETY STATEMENT

This document is only available in English.



## 1. Identification of the substance/preparation and company/undertaking

Product/Kit Name: RiboPure™-Blood

Catalog #: 1928

Product/Component Name: Elution Solution

Catalog Number: 9911G4

Supplier: Ambion, Inc.

Emergency Telephone Numbers:

USA: 1-800-888-8804

Europe: +44 (0) 1480 373 020

## 2. Composition/ information on ingredients

Substance/Preparation:

To the present knowledge of Ambion, Inc., this product does not contain any hazardous ingredients in quantities requiring reporting in this section, in accordance with EU regulations or National regulations.

**To Ambion's knowledge this substance/preparation is not classified as hazardous according to EU, US, or any other known national regulations.**

## 9. Physical and chemical properties

Physical State: Liquid

Color: Colorless

## 16. Other information:

To the best of Ambion's knowledge, the information contained herein is accurate. However, Ambion, Inc. does not assume 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.

This is not an MSDS. According to EU and US regulations we are not required to supply an MSDS for a product, which is not classified as hazardous.

# SAFETY STATEMENT

This document is only available in English.



## 1. Identification of the substance/preparation and company/undertaking

Product/Kit Name: RiboPure™-Blood

Catalog #: 1928

Product/Component Name: DNase Inactivation Reagent

Catalog Number: 8173G3

Supplier: Ambion, Inc.

Emergency Telephone Numbers:

USA: 1-800-888-8804

Europe: +44 (0) 1480 373 020

## 2. Composition/ information on ingredients

Substance/Preparation:

To the present knowledge of Ambion, Inc., this product does not contain any hazardous ingredients in quantities requiring reporting in this section, in accordance with EU regulations or National regulations.

**To Ambion's knowledge this substance/preparation is not classified as hazardous according to EU, US, or any other known national regulations.**

## 9. Physical and chemical properties

Physical State: Liquid

Color: Colorless

## 16. Other information:

To the best of Ambion's knowledge, the information contained herein is accurate. However, Ambion, Inc. does not assume 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.

This is not an MSDS. According to EU and US regulations we are not required to supply an MSDS for a product, which is not classified as hazardous.