

1. Product and Company Identification

Material name ThinPrep® CytoLyt Solution
Version # 002
Issue date 09-August-2013
Revision date -
Supersedes date -
CAS # Mixture
MSDS Number 85092-001 Rev. 002
Product use A methanol based, buffered preservative solution used to support cells during transport and slide preparation.

Manufacturer information
Manufacturer Hologic Inc.
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 Marlborough, Massachusetts, 01752 USA
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Contact
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2. Hazards Identification

Physical state Liquid.
Appearance Clear, colorless liquid.
Emergency overview DANGER

Flammable liquid and vapor. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes skin and eye irritation. May cause central nervous system effects.

Potential health effects
Routes of exposure Ingestion. Inhalation. Skin contact. Eye contact.
Eyes Causes eye irritation.
Skin Causes skin irritation. Harmful if absorbed through skin.
Inhalation Harmful if inhaled. May cause central nervous system effects.
Ingestion May be fatal if swallowed. Even small amounts (30-250 ml methanol) may be fatal. Symptoms are stomach ache, nausea, vomiting, dullness, visual disorder and blindness.

Target organs Central nervous system. Eyes. Respiratory system. Skin.

Chronic effects Methanol: Human exposure to methanol may result in illness, systemic poisoning, blindness, optic nerve damage and perhaps death, after being ingested, absorbed through the skin or inhaled. Death due to cardiac or respiratory failure has been reported in some cases from consumption of as little as 30 mls.

Signs and symptoms Prolonged and repeated exposure to high vapor concentrations, skin absorption or ingestion of methanol may result in visual disturbances, metabolic acidosis, headache, giddiness, nausea, insomnia, gastric disturbance, dizziness, and slow breathing. There have been severe cases reported of blindness, coma and death due to the ingestion of methanol.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Water	7732-18-5	40 - 70
Methanol	67-56-1	20 - 50

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. If irritation persists: Continue flushing during transport to hospital. Take along these instructions.
Skin contact	Take off immediately all contaminated clothing. Immediately flush thoroughly with water for at least 15 minutes. Get medical attention immediately. Wash contaminated clothing before reuse.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
Ingestion	Do not induce vomiting without advice from medical personnel. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Notes to physician	Treat for CNS depression and possible renal failure. Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ethanol and fomepizole are effective antidotes for methanol poisoning, although fomepizole is preferred.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties	Flammable liquid and vapor. By heating and fire, toxic vapors/gases may be formed. Heat may cause the containers to explode.
Extinguishing media	
Suitable extinguishing media	Dry chemical, foam, carbon dioxide. Water may be an ineffective extinguishing medium.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Protection of firefighters	
Specific hazards arising from the chemical	Heating will generate vapors which may form explosive vapor/air mixtures.
Protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Fire fighting equipment/instructions	Evacuate area. Move containers from fire area if you can do it without risk. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers.
Specific methods	Keep unnecessary personnel away. Use standard firefighting procedures and consider the hazards of other involved materials.
Hazardous combustion products	Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

Personal precautions	Ensure adequate ventilation. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Wear suitable protective clothing, gloves and eye/face protection. Wear protective clothing as described in Section 8 of this safety data sheet. Follow standard emergency procedure.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge to the aquatic environment.
Methods for containment	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Collect spillage. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Immediately contact emergency personnel. Remove sources of ignition. Beware of the explosion danger. Absorb spillage with non-combustible, absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Use only with adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapors. The product is highly flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. Ground container and transfer equipment to eliminate static electric sparks. Use non-sparking hand tools and explosion-proof electrical equipment. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Avoid release to the environment.

Storage

Follow rules for flammable liquids. Keep away from heat, spark, open flames and other sources of ignition. Keep container tightly closed in a cool, well-ventilated place. Store away from incompatible materials. Keep out of the reach of children.

Storage temperature:

Without cytologic sample: 59-86°F (15-30°C)

With cytologic samples: 39-99°F (4-37°C)

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Methanol (CAS 67-56-1)	PEL	260 mg/m ³
		200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	328 mg/m ³
		250 ppm
	TWA	262 mg/m ³
		200 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	328 mg/m ³
		250 ppm
	TWA	262 mg/m ³
		200 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	310 mg/m ³
		250 ppm
	TWA	260 mg/m ³
		200 ppm

Exposure guidelines

Canada - Alberta OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Canada - British Columbia OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Canada - Manitoba OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Canada - Ontario OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Canada - Quebec OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Canada - Saskatchewan OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Mexico OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
US - California OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
US - Tennessee OELs: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
US ACGIH Threshold Limit Values: Skin designation Methanol (CAS 67-56-1)	Can be absorbed through the skin.
US. NIOSH: Pocket Guide to Chemical Hazards Methanol (CAS 67-56-1)	Can be absorbed through the skin.
US. OSHA Table Z-1-A (29 CFR 1910.1000) Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Engineering controls Observe occupational exposure limits and minimize the risk of exposure. Explosion-proof general and local exhaust ventilation. Use explosion-proof equipment.

Personal protective equipment

Eye / face protection	Wear approved safety goggles.
Skin protection	Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier. Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.
General hygiene considerations	When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practices. Launder contaminated clothing before reuse. Observe any medical surveillance requirements.

9. Physical & Chemical Properties

Appearance	Clear, colorless liquid.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Alcohol.
Odor threshold	Not available.
pH	7
Vapor pressure	127 mmHg
Vapor density	1.1 (Air = 1)
Boiling point	148 °F (64.44 °C)
Melting point/Freezing point	9.7 °F (-12.39 °C)
Solubility (water)	Miscible
Specific gravity	0.97
Flash point	109.0 °F (42.8 °C) Closed Cup

Flammability limits in air, upper, % by volume	36 %
Flammability limits in air, lower, % by volume	6.7 %
Auto-ignition temperature	725 °F (385 °C)
Evaporation rate	> 1
Percent volatile	> 99 %

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Confined space.
Incompatible materials	Strong oxidizing agents. Reducing agents. Acids. Alkali metals. Metal powders. Potassium. Sodium. Anhydrides. Acid chlorides. Aluminum. Magnesium.
Hazardous decomposition products	Carbon oxides. Formaldehyde.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Methanol (CAS 67-56-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	15800 mg/kg
<i>Inhalation</i>		
LC50	Rat	87.5 mg/l, 6 Hours
<i>Oral</i>		
LD50	Rat	5628 mg/kg
Sensitization	Not a skin sensitizer.	
Acute effects	May cause central nervous system effects. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes skin and eye irritation.	
Chronic effects	Methanol: Human exposure to methanol may result in illness, systemic poisoning, blindness, optic nerve damage and perhaps death, after being ingested, absorbed through the skin or inhaled. Death due to cardiac or respiratory failure has been reported in some cases from consumption of as little as 30 mls.	
Carcinogenicity	Not classified.	
Epidemiology	No data available.	
Mutagenicity	No data available.	
Reproductive effects	The information located does not suggest that methanol is a reproductive toxin.	
Symptoms and target organs	Prolonged and repeated exposure to high vapor concentrations, skin absorption or ingestion of methanol may result in visual disturbances, metabolic acidosis, headache, giddiness, nausea, insomnia, gastric disturbance, dizziness, and slow breathing. There have been severe cases reported of blindness, coma and death due to the ingestion of methanol.	

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results
Methanol (CAS 67-56-1)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) > 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	

Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	No data available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient	No data available.
Methanol (CAS 67-56-1)	-0.77
Mobility in environmental media	The product is water soluble and may spread in water systems. The product is a volatile substance, which may spread in the atmosphere.

13. Disposal Considerations

Waste codes	U154: Waste Methyl alcohol
US RCRA Hazardous Waste U List: Reference	
Methanol (CAS 67-56-1)	U154
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not discharge into drains, water courses or onto the ground. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Do not discharge into rivers, lakes, mountains, etc. because the product may affect the environment.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1993
Proper shipping name	Flammable liquids, n.o.s. (Methanol Solution)
Hazard class	3
Packing group	III
Additional information:	
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Methanol Solution)
Transport hazard class(es)	3
Packing group	III
ERG code	3L

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methanol Solution)
Transport hazard class(es)	3
Packing group	III
EmS	F-E, S-E

TDG

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methanol Solution)
Hazard class	3
Packing group	III
Marine pollutant	D
Special provisions	16

15. Regulatory Information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methanol (CAS 67-56-1)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Methanol (CAS 67-56-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Methanol (CAS 67-56-1) Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Methanol: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance (40 CFR 355, Appendix A)	No
SARA 311/312 Hazardous chemical	Yes
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled
Canadian regulations	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status	Controlled
WHMIS classification	B2 - Flammable Liquids D1B - Immediate/Serious-TOXIC D2A - Other Toxic Effects-VERY TOXIC

WHMIS labeling



Inventory status

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

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

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

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Methanol (CAS 67-56-1) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Methanol (CAS 67-56-1) Listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1) Listed: March 16, 2012 Developmental toxin.

US - New Jersey RTK - Substances: Listed substance

Methanol (CAS 67-56-1) Listed.

US. Massachusetts RTK - Substance List

Methanol (CAS 67-56-1) Listed.

US. New Jersey Worker and Community Right-to-Know Act

Methanol (CAS 67-56-1) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

Methanol (CAS 67-56-1) Listed.

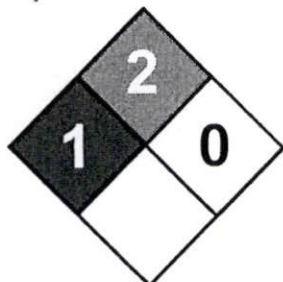
Mexico regulations This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

16. Other Information

HMIS® ratings

Health: 1
Flammability: 2
Physical hazard: 0

NFPA Ratings



Disclaimer

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