MATERIAL SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: CryoChem Cryostat Disinfectant
Product Code: REA023
Manufacturer: Histo-Line
Brand: Solmedia Ltd

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

Identified uses: Disinfecting Agent

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Solmedia Ltd.
- Address of Supplier: Unit 2, Vernon Drive
  Battlefield Enterprise Park
  Shrewsbury
  SY1 3TF
  UK
- Telephone: 0844 80 80 900
- Email: labsupplies@solmedialtd.com

1.4 Emergency telephone number

Emergency Phone # +44 (0)844 80 80 900

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1 Classification of the substance or mixture

Classification under CLP: Regulation (EC) No. 1272/2008 [CLP]

Hazard Class	Hazard Category	Hazard Statement
Flammable liquid	Category 3	H226
Cause serious Eye damage/irritation	Category 1	H318
Toxic to aquatic life with long lasting effects	Category 2	H411

2.2 Label elements

Hazard Statements H226 Flammable liquid and vapour

H318 Causes serious eye damage

H335 May cause respiratory irritation

H400 Very toxic to aquatic life

H411 Toxic to aquatic life with long lasting effects

Signal Word: Danger

Hazard Pictograms: GHS02: Flammable

GHS05: Corrosive

GSH09: Environmental hazard

Precautionary Statements

P211 Do not spray on an open flame or other ignition source

P261 Pressurized container – Do not pierce or burn, even after use

P262 Do not get in eyes, on skin, or on clothing

P101 If medical advice is needed, have product container or label at hand

P102 Keep out of reach of children

P273 Avoid release to the environment.

P310 Immediately call a poison canter or doctor-physician.

P501 Dispose of contents-container to a licensed waste disposal company.

2.3 Other hazards

PBT: PBT and vPvB assessment. PBT: Not applicable. vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients Classification according to Regulation (EC) No. 1272/2008 [CLP]

			Classification (Regulation (EC) No 1272/2008 [CLP]	
Hazardous Components		Amount [%]	Hazard class/ Hazard category	Hazard Statements
Name:	Ethanol absolute	≤50-60%		H225

CAS NO.	64-17-5		FLAM. LIQUID AND VAPOUR CAT. 2	H226
EC-NO.	200-578-6			
EU REACH-REG. NO.	01-2119457610-43			
Name:	Diethyl ether	≤2-3%	FLAM. LIQUID CAT. 1, ACUTE TOX. CAT. 4, STOT SE CAT. 3.	H224, H302, H336
CAS NO.	60-29-7			
EC-NO.	200-467-2			
Name:	Chlorhexidine	≤0.2-0.3%	EYE DAM. CAT. 1, AQUA. ACUTE CAT. 1	H318, H400, H410
CAS NO.	55-56-1			
EC-NO.	200-467			

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

In case of skin contact After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

5.1 Extinguishing media

Suitable extinguishing agents

CO_2 or alcohol resistant foam

Unsuitable extinguishing agents

Water with full jet.

5.2 Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures. During heating or in case of fire poisonous gases are produced. Carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. In closed rooms wear a self - contained breathing apparatus. Do not inhale gases in case or fire or combustion.

5.4 Further information

Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

General Information: Use proper personal protective equipment as indicated in Section 8.

6.1 Personal precautions, protective equipment and emergency procedures

Keep away any ignition source. Wear protective equipment. Keep unprotected persons away. If vapours - aerosols are formed, use personal protective equipment.

6.2 Environmental precautions

Dilute with plenty of water after collecting the liquid. Prevent seepage into sewage system, work pits and cellars. Do not allow to enter sewers - surface or ground water. Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and materials for containment and cleaning up

Ventilate area and wash spill site after material pickup is complete. Collect the liquid with vacuum in a suitable container and absorb the remainder with a porous material (diatomite, acid binders, universal binders, etc). Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid prolonged or repeated exposure. Avoid contact with eyes, skin, and clothing. Ensure good ventilation - exhaustion at the workplace. Only handle and refill product in closed systems or under local exhaust. Pneumatic conveyance only with nitrogen or other inert gases. Keep receptacles non-in use, tightly sealed.

Open and handle receptacle with care. Information about fire - and explosion protection. Keep ignition sources away - Do not smoke. Protect against electrostatic charges. Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage. Requirements to be met by storerooms and receptacles. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Information about storage in one common storage facility: Store away from oxidizing agents

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

ETHYL ALCOHOL

State	8 -hour TWA	15 min STEL	8- hour TWA	15 min STEL
UK	1920 mg/m3	-	-	-

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protective equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique

(Without touching glove's outer surface) to avoid skin contact with this product. Dispose of

Contaminated gloves after use in accordance with applicable laws and good laboratory practices.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Wash and dry hands.

Body Protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Dust filter (P1 / FFP1).

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Where risk assessment shows air-purifying respirators are appropriate use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Filter P1 (EN 143), in case of dust-producing handlings.

Eye protection:

Goggles recommended during refilling: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Additional Information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Control of environmental exposure

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Molecular weight

Appearance:

Form	fluid
Colour	uncoloured
Odour	alcohol-like
Odour threshold	not determined.
pH-value	not determined.

Change in condition

Melting point melting range

-98°C

Boiling point boiling range

64.7°C

Flash point	12°C

Flammability (solid, gaseous)

not applicable.

Ignition temperature	425°C

Decomposition temperature

not determined.

Self-igniting	not determined.
Danger of explosion	product is not explosive. However, formation of explosive air vapour mixtures are possible.
Explosion limits:	
Lower	5.5 Vol %
Upper	44 Vol %
Vapour pressure at 20°C	
	128 hPa
Density at 20°C	0.79 g/cm³
Relative density	not determined.
Vapour density	not determined.

9.2 Other safety information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition - conditions to be avoided. No decomposition if used according to specifications.

Conditions to avoid - heat, flames and sparks

10.3 Possibility of hazardous reactions

Can react violently with oxygen rich (oxidizing) material. Danger of explosion.

10.4 Conditions to avoid

No further relevant information available

10.5 Incompatible materials

hydrogen peroxide. Hazardous decomposition products. Carbon monoxide, Carbon dioxide.

10.6 Hazardous decomposition products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

On the skin: no irritant effect.

On the eye: no relevant irritating effects.

Ingestion: it can be harmful if swallowed.

Inhalation: may be harmful if inhaled.

Sensitization: no sensitizing effects known.

Other information (about experimental toxicology).

No more relevant data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

The product is easily biodegradable.

Behaviour in environmental systems.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Additional ecological information.

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation.

Must not be disposed together with household garbage.

Do not allow product to reach sewage system.

Reutilise if possible or contact a waste-processors for recycling or safe disposal.

Waste disposal key.

The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country.

So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste. 2001/573/EC: Council Decision of 23 July 2001 amending the list of wastes contained in Decision 2000/532/EC. Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste.

Uncleaned packaging:

The containers and packing materials contaminated with dangerous substances or preparations, have the same treatment products. Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

Recommendation.

Disposal must be made according to official regulations. Packaging's that may not be cleansed are to be disposed of in the same manner as the product.

Wash with solvents to be incinerated.

SECTION 14: Transport information

14.1 UN number

ADR/RID class: 3 (FT1) Flammable liquids.

ICAO/IATA Class: 3

IMDG Class:	3
Danger code (Kemler):	336
UN-Number:	1170
EMS Number:	F-E,S-D

4.2 UN proper shipping name

1170 ethanol (ethyl alcohol)

14.3 Transport hazard class(es)

Hazard label 3

14.4 Packaging group

II

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user

Excepted quantities (EQ):	E2
Limited quantities (LQ)	LQ0
Transport category	2
Tunnel restriction code	D/E

UN "Model Regulation": ADR 2009 - Italian Official Translation, ed. ARS IT editions.

Special precautions for user Warning.

Flammable liquids.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006 a Modified according to rules CE 453/2010

Water hazard class (WGK): strongly hazardous to water (WGK 3)

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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SECTION 16: Other information

This information is based on present knowledge.

However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H226 Flammable liquid and vapour.

H318 Causes serious eye damage.

H335 May cause respiratory irritation

H400 Very toxic to aquatic life

Sources.

Directive 67/548/EC, in the latest valid version. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH. Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.

Globally Harmonized System, GHS

References.

ECDIN (Environmental Chem. Data and Information Network).

IUCLID (International Uniform Chemical Information Database).

NIOSH - Registry of Toxic Effects of Chemical Substances.

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Solmedia

Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.