

OSHA HCS 29 CFR 1910.1200(g) and GHS Rev 06

CTL-CRYO[™] ABC KIT for CTL-CRYO[™] A

Section 1: IDENTIFICATION

Product name:	CTL-Cryo™ ABC Kit for component CTL-Cryo™ A
Catalog number:	CTLC-ABC, CTLC-ABC-100, CTLC-ABC-150, CTLC-ABC-300, CTLC-ABC-500
Company name:	Cellular Technology Limited 20521 Chagrin Boulevard Shaker Heights, OH 44122-5350 USA +1 216-791-5084 T • +1 216-751-1373 F +1 888-791-4005 Toll Free US kits@immunospot.com www.immunospot.com
Recommended usage:	formulated to cryopreserve freshly-isolated PBMC. For laboratory research use only. Not for use in diagnostic or therapeutic procedures.
Emergency telephone:	+1 216-791-5084; +1 888-791-4005 Toll Free US

Section 2: HAZARD(S) IDENTIFICATIONClassification:Solution containing a proprietary concentration of stimulatory compounds and HSA as a
carrier protein, neither of which are considered hazardous at the concentration level used.GHS signal word:Not a hazardous mixtureHazard statements:Not a hazardous mixturePrecautionary statements:Not a hazardous mixtureResponse statements:Not a hazardous mixtureNot a hazardous mixtureNot a hazardous mixtureSafety phrases:S36/S37 – Wear suitable protective clothing and gloves.

Section 3: CON	IPOSITION / IN	FORMATION OF	NINGREDIENTS
CONTAINS	CAS NUMBER	EC NUMBER	CONTENT
HSA	70024-90-7	274-272-6	NA

Section 4: FIRST-AID MEASURES

Description of first aid measures:

Skin and eyes: In case of contact with eyes, wash or flush eyes as a precaution.

Inhalation: If inhaled, move to fresh air.

Ingestion: If ingested do not induce vomiting; rinse mouth with water.



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	Section 5: FIRE-FIGHTING MEASURES
Suitable extinguising media:	Carbon dioxide extinguishing powder, dry chemicals, or water spray can be used for small fires. Fight larger fires with water spray or alcohol-resistant foam.
Special hazards arising from the substance or mixture:	No further relevant information available.
Advice for firefighters:	Wear self-contained breathing apparatus if necessary.
Se	ction 6: ACCIDENTAL RELEASE MEASURES
Personal precautions:	Use proper personal protective equipment, avoid breathing vapors, mist, gas, or dust.
Environmental precautions:	No precautions required.
	For spills and leaks, ventilate area of leak or spill. Absorb spill using an absorbent, noncombustable material and dispose of collected material according to local and regional regulations.
	Section 7: HANDLING AND STORAGE
	Use only with adequate ventilation. Wear chemical-resistant gloves.
Conditions for safe storage:	Store refrigerated at 4°C
Incompatible materials:	Strong oxidizing agents, strong reducing agents, strong acids.
Section 8	: EXPOSURE CONTROLS / PERSONAL PROTECTION
PEL:	This product does not contain any ingredients listed on OSHA PEL Threshold Limit Values.
Personal protective	

equipment: Wear chemical-resistant gloves.

General protective Handle in accordance with good industrial hygiene and safety practice. hygiene considerations: Wash hands thoroughly with soap and water after handling and before eating or drinking. Safety shower and eye wash should be available and close to work areas.

Environmental

exposure controls: Follow best practice for site management and disposal of waste.



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Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear colorless liquid	Vapor pressure	Not available
Odor	Odorless	Vapor density	Not available
Odor threshold	Not available	Relative density	Not available
рН	Not available	Solubility	Complete
Melting point	Not available	Partition coefficeient	· · ·
Freezing point	Not available	Auto-ignition temperature	Not available
Initial boiling point and range	Not available	Decomposition temperature	Not available
Flash point	Not available	Evaporation rate	Not available
Flammability (solid, gas)	Not available	Viscosity	Not available
Upper/lower flammability or explosive limits	Not available		

Section 10: STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid:	No data available
Incompatible materials:	Strong acids, strong oxidizing agents, and strong reducers.
Hazardous	
decomposition products:	None

Section 11: TOXICOLOGICAL INFORMATION

Routes of entry/exposure:	Skin, eyes, ingestion
Reproductive toxicity:	No data available
Acute toxicity:	No data available
Acute effects on skin:	May cause skin irritation
Chronic effects on skin:	No data available
Acute effects on eyes:	May cause eye irritation
Chronic effects on eyes:	No data available
Carcinogenicity:	No data available
Germ cell mutagenicity:	No data available
Symptoms of chemical exposure:	None known



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	Section 12: ECOLOGICAL INFORMATION
Toxicity:	No data available
Persistance and biodegradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available
Other adverse effects:	No data available on the adverse effects of this material on the environment.
	Section 13: DISPOSAL CONSIDERATIONS
Product waste treatment:	Dispose of product waste in accordance with applicable national, regional, or local regulations.
Packaging waste treatment:	Dispose of packaging waste in accordance with applicable national, regional, or local regulations.
Precautions:	No data available
	Section 14: TRANSPORT INFORMATION
DOT number:	Not a dangerous good
UN number:	Not a dangerous good
IMDG code:	Not a marine pollutant
IATA code:	Not a dangerous good
	Section 15: REGULATORY INFORMATION
U.S. federal and state regulat	ions:
	CAS# 70024-90-7 Not listed as one of California's known or potential carcinogens.
CERCLA/SARA:	Not listed
EU labeling:	EC #247-272-6

Section 16: OTHER INFORMATION

The information and recommendations in this Safety Data Sheet are believed to be accurate as of the date of issue. Nothing herein shall be deemed to create a warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this data to formulate the necessary safety precautions, as well as to decide the suitablity of the material or product for any particular purpose. This product is intended for use only by persons having necessary technical skills and facilities for its proper handling. Since the conditions and manner are outside of the control of Cellular Technology Limited (CTL), CTL shall not be held liable for any damage or injury resulting from the use, misuse, or mishandling of the above product, or the information contained in this Safety Data Sheet.

Issued 12-01-15



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CTL-CRYO[™] ABC KIT for CTL-CRYO[™] B

Section 1: IDENTIFICATION

Product name:	CTL-Cryo [™] ABC Kit for component CTL-Cryo [™] B
Catalog number:	CTLC-ABC, CTLC-ABC-100, CTLC-ABC-150, CTLC-ABC-300, CTLC-ABC-500
Company name:	Cellular Technology Limited 20521 Chagrin Boulevard Shaker Heights, OH 44122-5350 USA +1 216-791-5084 T • +1 216-751-1373 F +1 888-791-4005 Toll Free US kits@immunospot.com www.immunospot.com
Recommended usage:	When mixed according to protocol, the CTL-Cryo™ ABC Kit is a serum-free solution formulated to cryopreserve freshly-isolated PBMC. For laboratory research use only. Not for use in diagnostic or therapeutic procedures.
Emergency telephone:	+1 216-791-5084; +1 888-791-4005 Toll Free US
	Section 2: HAZARD(S) IDENTIFICATION

Section 2: HAZARD(S) IDENTIFICATION

GHS classification:	Dimethyl Sulfoxide (DMSO) H227 – Combustible liquid H313 – Causes skin irritation, Category 2 H319 – Causes serious eye irritation, Category 2
GHS signal word:	Warning
Hazard statements:	H227 – Combustible liquid H313 – Causes skin irritation H319 – Causes serious eye irritation
Precautionary statements:	 P280 – Wear protective gloves/protective clothing/eye protection/face protection. P210 – Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. P262 – Do not get in eyes, on skin, or on clothing. P264 – Wash hands thoroughly after handling.
Response statements:	P302+P352 – If on skin, wash with plenty of soap and water. P305+P351+P338 – If in eyes, rinse cautiously with water for several minutes, remove contact lenses if present and easy to do, continue rinsing. P332+P313 – If skin irritation occurs, get medical advice/attention. P362+P364 – Take off contaminated clothing and wash before reuse.
Risk phrases:	R21 – Harmful if in contact with skin R36 – Irritating to eyes
Safety phrases:	S36/S37 – Wear suitable protective clothing and gloves.



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Section 3:	COMPOSITION / IN	FORMATION OF	N INGREDIENTS
CONTAIN		EC NUMBER	CONTENT
DMSC		200-664-2	5-20%
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	Section 4: FIRS	T-AID MEASURE	S
scription of first aid measu Skin and eyes:	r es: In case of contact, immediate skin for at least 15 minutes a	5	3,
Inhalation:	If inhaled, move to fresh air a give artificial respiration.	and seek medical attenti	on. If breathing is irreg
Ingestion:	If ingested obtain immediate	medical attention. Keep	o at rest. Do not induc
	Section 5: FIRE-FI	GHTING MEASU	RES
uitable extinguising media:		powder, dry chemicals	or water spray can be
Special hazards arising from the substance or mixture:	Hazardous decomposition: Su sulfide, dimethyl disulfide, an sparks, open flames, and oth	nd bis (methylthio) meth	ane. Keep away from
Advice for firefighters:	Burning dimethyl sulfoxide pr pressure, self-contained breat clothing including rubber glo leave area. Wear SCBA durin	thing apparatus (SCBA) wes and suit. Persons wi	with a full facepiece a thout respiratory prote
Se	ction 6: ACCIDENT	AL RELEASE ME	ASURES
Personal precautions:	Use proper personal protective ventilation.	ve equipment. Avoid bre	eathing vapors and pro
Environmental precautions:	Avoid run-off to waterways a	and sewers.	
Containment/ clean-up measures:	For spills and leaks, ventilate or absorb spill with inert mat with local and regional regula and clothing. Promptly remov	erial and transfer to che ations. Do not breathe v	mical waste container apors or get liquid in
	Section 7: HANDL	ING AND STOR	AGE
Precautions for safe handling:	Keep away from sources of ic vapors or mist. Avoid contact resistant gloves, and lab coat	t with skin, eyes, and clo	
	5		
Conditions for safe storage:	Store in a tightly closed conta at 18°C. Keep away from hea heating above 150°C can cau	at, sparks, and flame. St	ore out of direct sunli



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Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

PEL: N/A

Personal protective Ventilation – use only with adequate ventilation to keep exposure limits equipment: low. Wear chemical-resistant gloves, protective goggles, and lab coat.



General protective Handle in accordance with good industrial hygiene and safety practice. hygiene considerations: Wash hands thoroughly with soap and water after handling and before eating or drinking. Safety shower and eye wash should be available and close to work areas.

Environmental Follow best practice for site management and disposal of waste. **exposure controls:** Avoid release into the environment.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear colorless liquid	Vapor pressure	0.55mbar (0.46mmHg)@20°C
Odor	Odorless	Vapor density	2.7
Odor threshold	Not available	Relative density	1.1@20°C (water=1)
pH	8.5 (50/50 in water)	Solubility	Miscible
Melting point	17°C	Partition coefficeient	-2.03
Freezing point	18°C	Auto-ignition temperature	300-302°C
Initial boiling point and range	189°C	Decomposition temperature	Not available
Flash point	89°C Closed cup; 95°C Open cup	Evaporation rate	0.026 (n-butyl acetate=1)
Flammability (solid, gas)	Not available	Viscosity	2.0mPas or cP (@25°C)
Upper/lower flammability or explosive limits	Lower: 3.0-3.5% by volume Upper: 42-63% by volume		

Section 10: STABILITY AND REACTIVITY

Reactivity:	Hazardous polymerization will not occur.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid:	Prolonged heating above 150°C can cause rapid, exothermic decomposition.
Incompatible materials:	Organic and inorganic acid chlorides, strong oxidizing agents, alkali metals, hydrobromic acid, acidic solutions alkali bromides.
	Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio) methane.



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Section 11: TOXICOLOGICAL INFORMATION

Routes of entry/exposure:	Skin, eyes, ingestion
Reproductive toxicity:	No data available
Acute toxicity:	Oral LD50 (rat): 14,500mg/kg; Skin LD50 (rat): 40,000mg/kg
Acute effects on skin:	Causes skin irritation from short and long-term exposure.
Chronic effects on skin:	No data available
Acute effects on eyes:	Causes serious eye irritation from short and long-term exposure.
Chronic effects on eyes:	No data available
Carcinogenicity:	No data available
Germ cell mutagenicity:	No data available
Symptoms of chemical exposure:	Irritation and redness of skin and eyes

Section 12: ECOLOGICAL INFORMATION		
Toxicity:	Avoid release into the environment. Run-off from dilution water may cause pollution.	
Persistance and biodegradability:	No data available	
Bioaccumulative potential:	No data available	
Mobility in soil:	No data available	
Other adverse effects:	No data available on the adverse effects of this material on the environment.	

Section 13: DISPOSAL CONSIDERATIONS

Product waste treatment:Dispose of product waste in accordance with applicable national, regional, or
local regulations.Packaging waste treatment:Dispose of packaging waste in accordance with applicable national, regional, or
local regulations.

Precautions: No data available

Section	14:	TRANSPO	DRT INI	FORM	ATIO	Ν

DOT number:	Accepted quantity: <119 gallons (not regulated) Reportable quantity: >119 gallons (Combustible liquid) Proper shipping name: Dimethyl Sulfoxide; Hazard Class 3, Packing group III
UN number:	NA1933; Accepted quantity: <119 gallons (not regulated) Reportable quantity: >119 gallons (Combustible liquid) Proper shipping name: Dimethyl Sulfoxide; Hazard Class 3, Packing group III
IMDG code:	Not regulated
IATA code:	Not regulated



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Section 15: REGULATORY INFORMATION

U.S. federal and state regulations:

TSCA: CAS# 67-68-5, Dimethyl Sulfoxide

California proposition 65: Not listed as one of California's known or potential carcinogens.

CERCLA/SARA: Not listed

EU labeling: EC# 200-664-2

Section 16: OTHER INFORMATION

The information and recommendations in this Safety Data Sheet are believed to be accurate as of the date of issue. Nothing herein shall be deemed to create a warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this data to formulate the necessary safety precautions, as well as to decide the suitablity of the material or product for any particular purpose. This product is intended for use only by persons having necessary technical skills and facilities for its proper handling. Since the conditions and manner are outside of the control of Cellular Technology Limited (CTL), CTL shall not be held liable for any damage or injury resulting from the use, misuse, or mishandling of the above product, or the information contained in this Safety Data Sheet.

Issued 12-01-15 / Revised 12-12-16



OSHA HCS 29 CFR 1910.1200(g) and GHS Rev 06

CTL-CRYO[™] ABC KIT for CTL-CRYO[™] C

Section 1: IDENTIFICATION

Product name:	CTL-Cryo™ ABC Kit for component CTL-Cryo™ C
Catalog number:	CTLC-ABC, CTLC-ABC-100, CTLC-ABC-150, CTLC-ABC-300, CTLC-ABC-500
Company name:	Cellular Technology Limited 20521 Chagrin Boulevard Shaker Heights, OH 44122-5350 USA +1 216-791-5084 T • +1 216-751-1373 F +1 888-791-4005 Toll Free US kits@immunospot.com www.immunospot.com
Recommended usage:	When mixed according to protocol, the CTL-Cryo™ ABC Kit is a serum-free solution formulated to cryopreserve freshly-isolated PBMC. For laboratory research use only. Not for use in diagnostic or therapeutic procedures. +1 216-791-5084; +1 888-791-4005 Toll Free US
Emergency telephone:	+1 2 10-791-3064, +1 666-791-4003 1011 FIEE US

Section 2: HAZARD(S) IDENTIFICATION Classification: Solution containing a proprietary concentration of stimulatory compounds and HSA as a carrier protein, neither of which are considered hazardous at the concentration level used. GHS signal word: Not a hazardous mixture

Hazard statements:	Not a hazardous mixture
Precautionary statements:	Not a hazardous mixture
Response statements:	Not a hazardous mixture

Risk phrases: Not a hazardous mixture

Safety phrases: S36/S37 – Wear suitable protective clothing and gloves.

Section 3: CON	IPOSITION / IN	FORMATION O	N INGREDIENTS
CONTAINS	CAS NUMBER	EC NUMBER	CONTENT
HSA	70024-90-7	274-272-6	NA

Section 4: FIRST-AID MEASURES

Description of first aid measures:

Skin and eyes: In case of contact with eyes, wash or flush eyes as a precaution.

Inhalation: If inhaled, move to fresh air.

Ingestion: If ingested do not induce vomiting; rinse mouth with water.



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	Section 5: FIRE-FIGHTING MEASURES
Suitable extinguising media:	Carbon dioxide extinguishing powder, dry chemicals, or water spray can be used for small fires. Fight larger fires with water spray or alcohol-resistant foam.
Special hazards arising from the substance or mixture:	No further relevant information available.
Advice for firefighters:	Wear self-contained breathing apparatus if necessary.
Se	ction 6: ACCIDENTAL RELEASE MEASURES
Personal precautions:	Use proper personal protective equipment, avoid breathing vapors, mist, gas, or dust.
Environmental precautions:	No precautions required.
	For spills and leaks, ventilate area of leak or spill. Absorb spill using an absorbent, noncombustable material and dispose of collected material according to local and regional regulations.
	Section 7: HANDLING AND STORAGE
	Use only with adequate ventilation. Wear chemical-resistant gloves.
Conditions for safe storage:	Store refrigerated at 4°C
Incompatible materials:	Strong oxidizing agents, strong reducing agents, strong acids.
Section 8	: EXPOSURE CONTROLS / PERSONAL PROTECTION
PEL:	This product does not contain any ingredients listed on OSHA PEL Threshold Limit Values.
Personal protective	

exposure controls: Follow best practice for site management and disposal of waste.

Wash hands thoroughly with soap and water after handling and before eating or drinking.

Safety shower and eye wash should be available and close to work areas.

General protective Handle in accordance with good industrial hygiene and safety practice.

equipment: Wear chemical-resistant gloves.

hygiene considerations:

Environmental



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Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear colorless liquid	Vapor pressure	Not available
Odor	Odorless	Vapor density	Not available
Odor threshold	Not available	Relative density	Not available
рН	Not available	Solubility	Complete
Melting point	Not available	Partition coefficeient	Not available
Freezing point	Not available	Auto-ignition temperature	Not available
Initial boiling point and range	Not available	Decomposition temperature	Not available
Flash point	Not available	Evaporation rate	Not available
Flammability (solid, gas)	Not available	Viscosity	Not available
Upper/lower flammability or explosive limits	Not available		

Section 10: STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid:	No data available
Incompatible materials:	Strong acids, strong oxidizing agents, and strong reducers.
Hazardous	
decomposition products:	None

Section 11: TOXICOLOGICAL INFORMATION

Routes of entry/exposure:	Skin, eyes, ingestion
Reproductive toxicity:	No data available
Acute toxicity:	No data available
Acute effects on skin:	May cause skin irritation
Chronic effects on skin:	No data available
Acute effects on eyes:	May cause eye irritation
Chronic effects on eyes:	No data available
Carcinogenicity:	No data available
Germ cell mutagenicity:	No data available
Symptoms of chemical exposure:	None known



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Section 12: ECOLOGICAL INFORMATION			
Toxicity:	No data available		
Persistance and			
biodegradability:	No data available		
Bioaccumulative potential:	No data available		
Mobility in soil:	No data available		
Other adverse effects:	No data available on the adverse effects of this material on the environment.		
	Section 13: DISPOSAL CONSIDERATIONS		
Product waste treatment:	Dispose of product waste in accordance with applicable national, regional, or local regulations.		
Packaging waste treatment:	Dispose of packaging waste in accordance with applicable national, regional, or local regulations.		
Precautions:	No data available		
	Section 14: TRANSPORT INFORMATION		
DOT number:	Not a dangerous good		
UN number:	Not a dangerous good		
IMDG code:	ode: Not a marine pollutant		
IATA code:	Not a dangerous good		
	Section 15: REGULATORY INFORMATION		
U.S. federal and state regulat			
•	CAS# 70024-90-7		
	Not listed as one of California's known or potential carcinogens.		
CERCLA/SARA:	Not listed		
EU labeling:	EC #247-272-6		
Section 16: OTHER INFORMATION			

The information and recommendations in this Safety Data Sheet are believed to be accurate as of the date of issue. Nothing herein shall be deemed to create a warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this data to formulate the necessary safety precautions, as well as to decide the suitablity of the material or product for any particular purpose. This product is intended for use only by persons having necessary technical skills and facilities for its proper handling. Since the conditions and manner are outside of the control of Cellular Technology Limited (CTL), CTL shall not be held liable for any damage or injury resulting from the use, misuse, or mishandling of the above product, or the information contained in this Safety Data Sheet.

Issued 12-01-15