Safety Data Sheet

Ionomycin **EFFECTIVE DATE: 2016-05-18**

1 Product and Company Identification

1.1	**Product Name:**	Ionomycin
1.2	**Product Identifier:**	Ionomycin free acid 1%, Ethyl alcohol 99%
1.3	**Catalog Number:**	73722, 73724
1.4	**Product Use:**	Laboratory Chemical
1.5	**Manufacturer/Supplier:**	STEMCELL Technologies Suite 500-1618 Station Street Vancouver, British Columbia V6A 1B6 Canada
1.6	**In Case of Emergency Call:**	1-800-667-0322

2 Hazards Identification

2.1 Classification of the substance or mixture

Flammable Liquids, Category 2

Acute Toxicity – Oral, Category 4

Serious Eye Damage/Irritation, Category 2B

2.2 Label elements

Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H320	Causes eye irritation.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light/…/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+312	IF SWALLOWED Call a POISON CENTER or doctor/physician if you feel unwell.

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	P303+361+353	IF ON SKIN (or hair) Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P305+351+338	IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	P330	Rinse mouth.
	P337+313	If eye irritation persists get medical advice/attention.
2.3	**Other hazards**	No data available

3 Composition / Information on Ingredients

3.1 Substances

Synonyms Ionomycin free acid; SQ 23377

Molecular formula $C_{41}H_{72}O_9$

Molecular weight 709

Hazardous Components (Chemical Name)	CAS #	Concentration	EC #
Ionomycin free acid	56092-81-0	1%	611-356-7
Ethyl alcohol	64-17-5	99%	200-578-6

4 First Aid Measures

4.1 Description of first aid measures

4.1.1 If inhaled

Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

4.1.2 In case of skin contact

Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

4.1.3 In case of eye contact

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

4.1.4 If swallowed

Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed

May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive defects, teratogenic effects.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

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5 Fire Fighting Measures

5.1 Extinguishing Media

5.1.1 Suitable Extinguishing Media

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Use water spray to cool fire-exposed containers.

5.1.2 Unsuitable Extinguishing Media

A solid water stream may be inefficient.

5.2 Special hazards arising from the substance or mixture

5.2.1 Flammable Properties and Hazards

Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.

Contain explosion may occur under fire conditions.

Sensitive to static discharge.

Vapors can travel to a source of ignition and flash back.

5.2.2 Flash Pt

14°C Method Used: Closed Cup

5.2.3 Autoignition Pt

363°C

5.2.4 Explosive Limits

LEL: 3.3% at 25°C UEL: 19% at 25°C

5.2.5 Hazardous Combustion Products

Emits toxic fumes under fire conditions.

5.3 Fire Fighting Instructions

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in ethanol.

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6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved (or equivalent) self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental precautions

Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and materials for containment and cleaning up

Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

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7 Handling and Storage

7.1 Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid prolonged or repeated exposure.
Keep away from sources of ignition.
Take precautionary measures against static discharge.

7.2 Conditions for safe storage

Keep away from heat, sparks, and flame.
Keep container tightly closed.
Store in accordance with information listed on the product insert.

Other precautions

Hygroscopic.

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8 Exposure Controls/Personal Protection

8.1 Exposure limits

Component	CAS #	Value	Control parameters
Ionomycin free acid	56092-81-0	No data available	No data available
Ethyl alcohol	64-17-5	Britain EH40	TWA: 1920 mg/m^3 (1000 ppm)
		France VL	TWA: 1900 mg/m^3 (1000 ppm) STEL: 9500 mg/m^3 (5000 ppm)
		OSHA TWA	PEL: 1000 ppm
		ACGIH TWA	TLV: 1000 ppm

8.2 Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.3 Personal protective equipment

8.3.1 Eye/face protection

Safety glasses

8.3.2 Skin protection

Compatible chemical-resistant gloves
Lab coat

8.3.3 Respiratory protection

NIOSH (US) or CEN (EU) approved respirator, as conditions warrant.

8.3.4 General hygiene considerations

Do not take internally.

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Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Wash thoroughly after handling.

8.3.5 Environmental exposure controls

No data available

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Liquid	
Odour	No data available	
Odour threshold	No data available	
pH	No data available	
Melting point/freezing point	No data available	
Boiling point/boiling range	No data available	
Flash point	14°C Method Used: Closed Cup	
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Upper/lower flammability or explosive limits	LEL: 3.3 at 25°C	UEL: 19% at 25°C
Vapour pressure	43 mm HG at 20°C	
Vapour density	No data available	
Relative density	No data available	
Solubility	No data available	
Partition coefficient: n-octanol/water	No data available	
Auto-ignition temperature	363°C	
Decomposition temperature	No data available	
Viscosity	No data available	

10 Stability and Reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	Stable
10.3 Possibility of hazardous reactions	No data available
10.4 Conditions to avoid	Heat, flames and sparks
10.5 Incompatible materials	Alkali metals Ammonia Peroxides Strong oxidizing agents
10.6 Hazardous decomposition products	Carbon dioxide Carbon monoxide

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11 Toxicological Information

11.1 Acute toxicity

Oral (Ethyl alcohol):	TDLO (man): 1.14 mL/kg; TDLO (man): 650 mg/kg; LD50 (rat): 7060 mg/kg; LD50 (mouse): 3450 mg/kg; LD50 (mouse): 10.5 mL/kg; LD50 (rabbit): 6300 mg/kg
Inhalation (Ethyl alcohol):	LC50 (rat): 20,000 ppm (10 hours); TCLO (human): 1800 ppm (30 minutes); TCLO (human): 2500 mg/m^3 (20 minutes); LC50 (rat): 5900 mg/m^3 (6 hours); LCLO (mouse): 29,300 ppm (7 hours)
Dermal:	No data available
Other (Ionomycin):	Subcutaneous LD50 (mouse): 28 mg/kg

11.2 Skin corrosion/irritation

Ethyl alcohol: Irritation (rabbit): 20 mg (24 hours) moderate

11.3 Serious eye damage/eye irritation

Ethyl alcohol: Irritation (rabbit): 500 mg (24 hours) mild

11.4 Respiratory and/or skin sensitization

No data available

11.5 Germ cell mutagenicity

No data available

11.6 Carcinogenicity

IARC:	Group 1 – Carcinogenic to humans.
ACGIH:	Group A4 – Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

11.7 Reproductive toxicity

No data available

11.8 Specific target organ toxicity - single exposure

No data available

11.9 Specific target organ toxicity - repeated exposure

No data available

11.10 Aspiration hazard

No data available

11.11 Potential health effects

Inhalation:	May be harmful if inhaled. Material may be irritating to the mucous membranes and upper respiratory tract.
Ingestion:	May be harmful if swallowed.
Skin:	May be harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.

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11.12 Signs and symptoms of exposure

Ethyl alcohol: Investigated as a mutagen, reproductive effector, and tumorigen

Ionomycin: Investigated as a drug and natural substance

11.13 RTECS # Ionomycin free acid: NO0600000

Ethanol: KQ6300000

12 Ecological Information

12.1 Toxicity	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Other adverse effects	No data available

13 Disposal Considerations

13.1 Waste disposal method

Dispose in accordance with local, provincial/state, and federal regulations.

13.2 Contaminated packaging

Dispose of as unused product.

14 Transport Information

14.1 UN number	DOT	1170
	ADR/RID	1170
	IMDG	1170
	IATA	1170
14.2 UN proper shipping name	DOT	Ethyl Alcohol Solution
	ADR/RID	Ethyl Alcohol Solution
	IMDG	Ethyl Alcohol Solution
	IATA	Ethyl Alcohol Solution
14.3 Transport hazard class(es)	DOT	3 – Flammable Liquid
	ADR/RID	3 – Flammable Liquid
	IMDG	3 – Flammable Liquid
	IATA	3 – Flammable Liquid
14.4 Packing group	DOT	II
	ADR/RID	II
	IMDG	II
	IATA	II
14.5 Environmental hazards	No data available	
14.6 Special precautions	No data available	

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15 Regulatory Information

15.1 US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)
Ionomycin free acid	56092-81-0	No	No	No
Ethyl alcohol	64-17-5	No	No	No

15.2 Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP, ODC	CWA NPDES	TSCA	CA PROP.65
Ionomycin free acid	56092-81-0	No	No	No	No
Ethyl alcohol	64-17-5	No	No	Yes - Inventory	No

15.3 EU

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

15.4 Canada

WHMIS Classification:

B2	Flammable liquid.	Flammable liquid.
D2B	Toxic material causing other toxic effects.	Toxic by skin absorption. Toxic by inhalation.

This SDS was prepared in accordance with Hazardous Products Regulations (HPR) and WHMIS 2015.

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16 Other Information

16.1 Prepared by: Quality Control, STEMCELL Technologies Inc.

16.2 Revision: N/A

16.3 Notice: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product. The information contained in this Safety Data Sheet (SDS) is current as of the Effective Date shown in this document and may be subject to amendment by STEMCELL Technologies Inc.

16.4 Disclaimer: **THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.**

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