

SAFETY DATA SHEET (SDS) according to Regulation (EC) No. 830/2015 amending 1907/2006

1.1	on 1: Identification of the substance/mixture and of the Product identifier:	
		MitoPT® JC-1
1.1a	Other means of identification:	
1.1b	Alternative product name(s)/ synonyms:	JC-1; 5, 5', 6, 6'-tetrachloro-1, 1', 3, 3'-
4.4	D 1 (0 (1 "/)	tetraethylbenzimidazolylcarbocyanine iodide.
1.1c	Product number/Catalog #(s): Internal identification:	684, 6260, 6261
1.1d	Internal identification:	JC1; 5, 5', 6, 6'-tetrachloro-1, 1', 3, 3'-tetraethylbenzimidazolylcarbocyanine iodide
1.2	Relevant identified uses of the substance or	For research use only. Not for use in diagnostic procedures.
1.2	mixture and uses advised against:	1 of research ase only. Not for use in diagnostic procedures.
1.2a	Brief description of what the substance or mixture is intended to do:	Mitochondrial stain and potentiometric dye for cellular research.
1.3	Details of the supplier of the SDS:	
1.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)
1.3b	Address:	9401 James Avenue South, Suite 155
1.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA
1.3d	Phone number:	1-800-829-3194 and 952-888-8788
1.3e	Fax number:	952-888-8988
1.3f	Website:	www.immunochemistry.com
1.3g	Email:	help@immunochemistry.com
1.3h	Contact person at ICT:	Quality Documentation Department
1.4	Emergency telephone number:	ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide;
		ICT hours are 9 am-5 pm central time USA, Monday through Friday
		(excluding holidays). Chemtrec 24-hour access within USA and
		Canada: 1-800-424-9300 or +1 703-527-3887. Collect calls accepted.
Sactio	on 2: Hazards identification	
2.1	Classification of the substance or mixture:	
2.1a	Product is a:	Substance.
2.1b	Classification according to (EC) No. 1272/2008	Acute Tox. 4 (oral) H302.
	{CLP}:	Acute Tox. 4 (dermal) H312.
		Acute Tox. 4 (inhalation) H332.
		Skin Irrit. 2 H315.
		Eye Irrit. 2A H319.
		STOT SE 3 H335.
2.1c	The most important adverse physiochemical, human health, and environmental effects:	Refer to Sections 9-12.
2.2	Label elements:	
2.2a	GHS label elements, including precautionary	
	statements:	
2.2b	Contains:	
2.2c	Labeling in accordance with (EC) No. 1272/2008:	
2.2d	Hazard Pictograms (Hazard Symbols):	
		(1)
		\•/
0.0-	Circa al cuando	GHS07 Exclamation mark.
2.2e	Signal word:	Warning.
2.2f	Hazard statements:	H302 Harmful if swallowed.
		H312 Harmful in contact with skin.
		H315 Causes skin irritation.
		H319 Causes serious eye irritation. H332 Harmful if inhaled.
2 2~	Procautionary statements:	H335 May cause respiratory irritation.
2.2g	Precautionary statements:	P261 Avoid breathing dust.
		P264 Wash hands thoroughly after handling.
		P270 Do not eat, drink, or smoke when using this product.
		P271 Use only outdoors or in a well-ventilated area.
	T. Control of the con	P280 Wear protective gloves/protective clothing/eye protection/face
		nucle of inc
		protection.
		P301+P312+P330 IF SWALLOWED: Call a POISON CENTER or

MitoPT-JC1 SDS; Doc# F17-6254-2-A; Effective: 06/22/2017; Supersedes: F17-657-2-A; Page 2 of 7 and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue P332+P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P405 Store locked up P501 Dispose of contents/container in accordance with all local, regional, national and international regulations. 2.2h Supplementary precaution statements: None. 2.3 Other hazards: No additional information available. Does the chemical meet the criteria for PBT or vPvB? 2.3a Not applicable. 2.3b Other hazards which do not result in classification: No information available. Section 3: Composition/information on ingredients Item is a substance. Substance: 3.1 MitoPT JC-1 3.1a Chemical identity: 3.1b Common name, synonyms, etc.: Chemical formula: C25H27Cl4IN4 3.1f Classification according to (EC) No. 3.1c CAS number and 3.1e % 3.1d EC number: other unique identifiers: Concentration: 1272/2008 (CLP) 47729-63-5 None. 100% Acute Tox. 4, H302, H312, H332 Skin Irrit. 2, H315 Eve Irrit. 2A, H319 **STOT SE 3, H335** 3.1g Chemical identity of any impurity, stabilizing additive, None known. or individual constituent other than the main constituent, which is itself classified and which contributes to the classification (such as product identifier, trade name, identification numbers): 3.1h Other information on the substance: Chemical Formula: C₂₅H₂₇Cl₄IN₄ Molecular Weight: 652 g/mol 3.2 Mixture: Item is a substance, therefore Section 3.2 is not applicable; see The chemical identity and concentration or Section 3.1. concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: Section 4: First aid measures Description of first aid measures: 4.1 If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before reuse. Never give anything by mouth to an unconscious person. 4.1a Inhalation: Due to the small packaging the risk of inhalation is minimal. Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Rinse nose and mouth with water. Get medical attention if any discomfort continues. 4.1b Skin contact: Wash skin thoroughly with soap and water for several minutes; continue to rinse for at least 15 minutes. Remove any contaminated clothing and shoes and wash thoroughly before reuse. Get medical attention if any discomfort continues. Promptly wash eyes with plenty of water while lifting the eyelids. Make 4.1c Eve contact: sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK 4.1d Ingestion: FLUIDS! Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if any discomfort continues. 4.2 Most important symptoms and effects, both acute Refer to Sections 2 and 11 for most important known symptoms and and delayed: 4.2a Inhalation: Harmful if inhaled. May cause respiratory irritation. 4.2b Causes skin irritation. Skin contact: 4.2c Eye contact: Causes serious eye irritation. 4.2d Harmful if swallowed. Ingestion: 4.3 Indication of any immediate medical attention and No specific first aid measures noted, but first aid may still be required special treatment needed: in case of accidental exposure, inhalation, or ingestion of this product. If in doubt, get medical attention promptly!

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4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal protective equipment.	
Sectio	n 5: Firefighting measures		
5.1	Extinguishing media:	Use fire-extinguishing media appropriate for the surrounding materials	
5.1a	Suitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide.	
5.1b	Unsuitable extinguishing media:	None known.	
5.2	Special hazards arising from the substance or	Thermal decomposition can lead to release of toxic/corrosive gases	
	mixture:	and vapors.	
5.2a	Hazardous combustion products:	Carbon oxides, Nitrogen oxides (NOx), Phosgene.	
5.2b	Unusual fire & explosion hazards:	No unusual fire or explosion hazards noted.	
5.2c	Protective measures in fire:	Do not enter fire area without proper protective equipment, including	
		respiratory protection. Wear self-contained breathing apparatus and	
		protective suit (see Section 8).	
5.3	Advice for firefighters:	Keep away from heat, hot surfaces, sparks, open flames and other	
<i>-</i> 2-	On a sight fire fire being a proper decrees.	ignition sources. No smoking.	
5.3a 5.3b	Special firefighting procedures:	No specific firefighting procedure given.	
5.30	Special protective equipment and precautions for firefighters:	Wear full protective clothing, including self-contained breathing apparatus, if necessary. The product presents no special fire hazards	
	mengmers.	in normal use. Keep away from heat, hot surfaces, sparks, open	
		flames and other ignition sources. No smoking.	
		ilanies and other ignition sources. No smoking.	
Section	n 6: Accidental release measures		
6.1	Personal precautions, protective equipment, and	Use protective equipment appropriate for surrounding materials.	
	emergency procedures:	and the second of the second s	
6.1a	General release measures:	No specific emergency measures are required other than good	
		laboratory hygiene and safety practices for small spills. Wear suitable	
		protective clothing, gloves and eye or face protection. Consult	
		professional emergency personnel if concerned (see Section 8).	
6.1b	Advice for non-emergency personnel; personal	No specific emergency measures are required other than good	
	precautions, protective equipment and emergency	laboratory hygiene and safety practices. Wear suitable protective	
	procedures:	clothing/gloves/eye/face protection to avoid contact with skin, eyes,	
		and personal clothing; use an approved supplied-air respirator, in cas	
		of emergency (also refer to Section 8). Remove all sources of ignition	
		Ensure adequate ventilation and control dust/mist. Avoid breathing	
		vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable	
		protective clothing, gloves and eye or face protection to prevent any	
		contamination. Consult professional emergency personnel if	
0.4		concerned.	
6.1c	Advice for emergency responders; personal	Wear suitable protective clothing, gloves and eye or face protection to	
	precautions, protective equipment and emergency procedures:	avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8).	
6.2	Environmental precautions:		
6.3	Methods and materials for containment and	Contain any spills with dikes or absorbent materials to prevent	
0.3	clean up:	migration and entry into sewers or water sources. Place in a suitable	
	Clean up.	container for disposal in accordance with local waste regulations (see	
		Section 13). Wash spill area thoroughly with plenty of soap and water	
		Avoid contact with skin or inhalation of spillage, dust, or vapor.	
6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.	
0.4	Reference to other sections.	Trefer to decisors of and 10 for additional information.	
Sectio	n 7: Handling and storage		
7.1	Precautions for safe handling:	Do not handle until all safety precautions have been read and	
-		understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of	
		vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate	
		personal protection equipment (PPE). Thoroughly wash hands and	
		contaminated areas with water and soap before leaving the work site.	
		Keep away from sources of ignition.	
7.1a	Prevent handling of incompatible substances or	Avoid contact with strong acids and strong oxidizers.	
	mixtures:		
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use.	
		Remove contaminated clothing and protective equipment before	
		entering eating areas. Good personal hygiene is necessary. Follow	
		good laboratory hygiene and safety practices.	
7.2	Conditions for safe storage, including any	Store refrigerated or frozen. Refer to product label. Keep container	
	incompatibilities:	tightly closed in a dry and well-ventilated place. Containers which are	
		opened must be carefully resealed and kept upright to prevent	
		leakage. Avoid spills and release into the environment; keep away	
		leakage. Avoid spills and release into the environment; keep away from watercourses.	
7.3	Specific end use(s):	leakage. Avoid spills and release into the environment; keep away	

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8.1 8.1a	Control parameters: Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure	Not available.
	limit), etc.: WEL = Workplace Exposure Limit. Sk = can be absorbed through skin.	
8.1b	Appropriate engineering controls:	
8.1c	Individual protection measures, such as personal protective equipment:	Wear gloves, protective goggles, and lab coat.
8.1d	Safety symbols:	
8.2	Exposure controls:	
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.
8.2c	Ventilation controls:	Provide adequate ventilation.
8.2d	Reference to other sections:	Refer to Section 5 for additional information.
8.2e	Eye/face protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing.
8.2f	Skin protection:	Wear apron or protective clothing in case of contact.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2h	Respiratory equipment:	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and
		approved under appropriate government standards such as NIOSH (US) or CEN (EU).
8.2i	Other protection:	Wear appropriate clothing to avoid skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to
		prevent drying of skin. When using do not eat, drink, or smoke. Wash
8.2k	Thermal hazards:	promptly with soap and water if skin becomes contaminated None known under normal conditions of use.
8.2l	Environmental exposure controls:	Not determined.
5.2.	<u> </u>	
	n 9: Physical and chemical properties	
9.1	Information on basic physical and chemical properties:	•
9.1a	Appearance (physical state, color, etc.):	Powder; dust, varying color.
9.1b	Odor:	No characteristic odor.
9.1c	Odor threshold:	No data available.
9.1d	pH:	Not applicable.
9.1e	Melting point/freezing point (°C):	No data available.
9.1f 9.1g	Initial boiling point and boiling range: Flash point (°C):	No data available. Not applicable.
9.1h	Evaporation rate:	Not applicable.
9.1i	Flammability (solid, gas):	No data available.
9.1j	Upper/lower flammability or explosive limits:	No data available.
9.1k	Vapor pressure:	No data available.
9.11	Vapor density (Air =1):	No data available.
9.1m	Relative density:	No data available.
9.1n	Solubility(ies):	Soluble in organic solvents (such as dimethyl sulfoxide, DMSO); insoluble in water.
9.10	Partition coefficient (N-octanol/water):	No data available.
9.1p	Auto-ignition temperature (°C):	No data available.
9.1q	Decomposition temperature (°C):	No data available.
9.1r	Viscosity:	No data available.
9.1s	Explosive properties:	No data available.
9.1t 9.2	Oxidizing properties: Other information:	No data available. Molecular weight: 652
9.2a	Other information: Other physical or chemical parameters:	No additional information available.
	n 10: Stability and reactivity	110 againona miormanon available.
10.1	Reactivity:	No data available.
10.1	Chemical stability:	Stable under recommended handling and storage conditions (see
		Clasic andor recommended nationing and storage conditions (See

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		Section 7).
10.3	Possibility of hazardous reactions:	Hazardous polymerization: no data available.
10.4	Conditions to avoid:	Avoid exposure to high temperatures or direct sunlight.
10.5	Incompatible materials:	Strong oxidizing substances.
10.6	Hazardous decomposition products:	Fire creates: vapors/gases/fumes of: carbon monoxide (CO), carbon
		dioxide (CO ₂), nitrous gases (NOx), phosgene.
Castian	44. Tavia da signi information	
	11: Toxicological information	
11.1	Information on toxicological effects:	Mis-DT 10 4
11.1a	Name:	MitoPT JC-1
11.1b	Acute toxicity:	Oral: Harmful if swallowed.
		Dermal: Harmful in contact with skin.
11 10	Ckin correction/irritation:	Inhalation: dust/mist: Harmful if inhaled.
11.1c	Skin corrosion/irritation:	Causes skin irritation.
11.1d	Serious eye damage/irritation:	Causes serious eye irritation.
11.1e 11.1f	Respiratory or skin sensitization: Germ cell mutagenicity:	May cause respiratory irritation. Not determined.
	Carcinogenicity:	Not determined.
11.1g		
11.1h 11.1i	Reproductive toxicity: STOT-single exposure:	Not determined. May cause respiratory tract irritation.
11.11 11.1j	STOT-single exposure: STOT-repeated exposure:	Not determined.
11.1j 11.1k	Aspiration hazard:	Not determined.
11.1K	Information on the likely routes of exposure	May enter by ingestion; skin and/or eye contact; inhalation of
11.11	(inhalation, ingestion, skin and eye contact):	vapors/mist/dust.
11.1m		Harmful if swallowed.
11.1m 11.1n	Ingestion:	Harmful if swallowed. Harmful if inhaled. May cause respiratory irritation.
11.10	Skin contact:	Harmful in contact with skin.
11.10 11.1p	Eye contact:	Causes serious eye irritation.
11.1p	Symptoms related to the physical, chemical and	No specific symptoms noted.
11.14	toxicological characteristics:	No specific symptoms noted.
11.1r	Delayed and immediate effects as well as chronic	Not determined.
	effects from short and long term exposure:	Not dotominod.
11.1s	Numerical measures of toxicity (such as acute	Not determined.
	toxicity estimates):	
11.1t	Interactive effects:	Not determined.
11.1u	Absence of specific data:	Not applicable.
11.1v	Mixtures:	Not applicable.
11.1w	Mixture vs. substance information:	Not applicable.
11.1x	Classification by National Toxicity Program (NTP):	Not classified.
11.1y	Classification by International Agency for Research	Not classified.
	on Cancer (IARC):	
11.1z	Classification by OSHA 13:	Not classified.
11.1ab	Other information:	None.
	40 5 1 1 1 1 6 2	
	12: Ecological information	
12.1	Toxicity:	Mis-PT 10 4
12.1a	Name:	MitoPT JC-1.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	Not determined.
12.2	Persistence and degradability:	There are no data on the degradability of this product.
12.3	Bioaccumulative potential:	No data available on bioaccumulation.
12.4	Mobility in soil:	No data available.
12.5	Results of PBT and vPvB assessment:	Not determined.
12.6	Other adverse effects:	No data available.
Section	13: Disposal considerations	
13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety
		precautions applying to handling of the product.
13.1a	Description of waste residues and information on	Dispose of waste and residues in accordance with local authority
	their safe handling and methods of disposal,	requirements. For the safety of persons conducting disposal, recycling
	including the disposal of any contaminated	or reclamation activities, please refer to the information in Section 8
	packaging:	(exposure controls and personal protection) of the SDS.
01	44. Transport information	
	14: Transport information	Niet Backin
14.1	UN number:	Not applicable.
14.2	UN proper shipping name:	Not applicable.
14.3	Transport hazard class(es):	Not applicable.
14.4	Packing group:	Not applicable.
14.5	Environmental hazards:	No.
14.5a	Is it environmentally dangerous according to UN	No.
1	Model Regulations (IMDG Code, ADR, RID, and	

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14.5b	ADN)?: Is it a marine pollutant according to the IMDG code?:	No.
14.6	Special precautions for user:	None known.
14.7	Transport in bulk according to Annex II of MARPOL and the IBC code:	Not applicable.
14.7a 14.7b	Other information: Classification for other modes of transport:	The product is not considered a dangerous good for transport. Contact supplier.
	n 15: Regulatory information	
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture:	
15.1a	Regional safety, health and environmental regulations specific for the product in question:	None known.
15.1b	USA SARA Components (such as 302/311/313):	Not listed.
15.1c	USA Massachusetts Right to Know:	Not listed.
15.1d 15.1e	USA Pennsylvania Right to Know: USA New Jersey Right to Know:	Not listed.
15.1e	USA California Prop. 65 Components:	Not listed.
15.1g	EU Regulation 1907/2006 {REACH}:	
15.1h	Annex XIV substances subject to authorization:	Not listed.
15.1i	Substances of very high concern:	Not listed.
15.1j 15.1k 15.1l	Approved code of practice: Guidance notes: EU legislation references:	Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40. (EC) No. 1272/2008 on the classification, labelling and packaging of
13.11	Lo legislation references.	substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2a	Other regulatory information:	None.
16.1	n 16: Other information Other information:	
16.1a	Date of revision:	06/22/2017
16.1b	SDS number and revision:	F17-6254-2-A
16.1c	Supersedes SDS number and revision:	F17-657-2-A
16.1d	Changes made to the previous version of the SDS:	Updated to comply with EC 1272/2008 CLP regulations, EC 830/2015.
16.1e	Key/legend to abbreviations and acronyms used in the SDS:	ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE Acute Toxicity Estimate. BCF Bio Concentration Factor. CAS Chemical Abstracts Service. CLP Classification, Labelling and Packaging. CMR Carcinogen, Mutagen or Reproductive toxicant. COD Chemical Oxygen Demand. EC European Commission. EC50 Half maximal effective concentration. EH40 Resource containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations. EINECS European Inventory of Existing Commercial chemical Substances. ELINCS European List of Notified Chemical Substances. EU European Union. GHS Globally Harmonized System of Classification and Labelling of Chemicals. H Statement GHS Hazard statement. IATA International Air Transport Association. IBC Intermediate Bulk Container. IC50 Half maximal inhibitory concentration. IMDG International Maritime Dangerous Goods.

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			LC50 Median lethal concentration.	
			LD50 Median lethal dose.	
			LogPow logarithm of the octanol/water partition coefficient.	
			MARPOL 73/78 International Convention for the Prevention of	
			Pollution From Ships, 1973 as modified by the Protocol of 1978.	
			OEL Occupational Exposure Limit.	
			OSHA Occupational Safety and Health Administration (USA).	
			PBT Persistent, Bioaccumulative, and Toxic.	
			PEL Permissible Exposure Limit.	
			RID The Regulations concerning the International Carriage of	
			Dangerous Goods by Rail.	
			SADT Self-Accelerating Decomposition Temperature.	
			SARA Superfund Amendments and Reauthorization Act.	
			SCBA Self-Contained Breathing Apparatus.	
			SDS Safety Data Sheet.	
			STOT Specific Target Organ Toxicity.	
			STOT-RE Specific Target Organ Toxicity - Repeated Exposure.	
			STOT-SE Specific Target Organ Toxicity - Single Exposure.	
			UN United Nations.	
			USA United States of America.	
			vPvB very Persistent very bioaccumulative.	
16.1f		t of hazard statements and/or precautionary ents not written out in full elsewhere:	All statements were written out in full.	
DISCLA			fic material designated and may not be valid for such material used	
DISCLA	AIIVIEN.			
		in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy		
		himself as to the suitability of such inform		
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	on 1: Identification of the substance/mixture and of the		
1.1	Product identifier:	10X Assay Buffer	
1.1a	Other means of identification:		
1.1b	Alternative product name(s)/ synonyms:	10X AB, AB, MitoPT Assay Buffer, Assay Buffer	
1.1c	Product number/Catalog #(s):	685, 686, 6161, 6259	
1.1d	Internal identification:	10X AB, AB, MitoPT Assay Buffer, Assay Buffer	
1.2	Relevant identified uses of the substance or	For research use only. Not for use in diagnostic procedures.	
	mixture and uses advised against:	To recourse only. Not for use in utagricous procedures.	
1.2a	Brief description of what the substance or mixture is	A buffered diluent for use in research laboratory techniques.	
1.24	intended to do:	7 ballored allacit for account in recocarcit laboratory testiniques.	
1.3	Details of the supplier of the SDS:		
1.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)	
1.3b	Address:	9401 James Avenue South, Suite 155	
1.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA	
1.3d	Phone number:	1-800-829-3194 and 952-888-8788	
1.3e	Fax number:	952-888-8988	
1.3e 1.3f	Website:	www.immunochemistry.com	
	Email:	help@immunochemistry.com	
1.3g			
1.3h	Contact person at ICT:	Quality Documentation Department	
1.4	Emergency telephone number:	ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide;	
		ICT hours are 9 am-5 pm central time USA, Monday through Friday	
		(excluding holidays). Chemtrec 24-hour access within USA and	
		Canada: 1-800-424-9300 or +1 703-527-3887. Collect calls accepted.	
Caatia	on 2: Hazards identification		
	Classification of the substance or mixture:		
2.1		No. to the second secon	
2.1a	Product is a:	Mixture.	
2.1b	Classification according to (EC) No. 1272/2008	Does not meet the criteria for classification.	
	{CLP}:		
2.1c	The most important adverse physiochemical, human	Prolonged skin contact may cause redness and irritation. Refer to	
	health, and environmental effects:	Sections 4, 9-12.	
2.2	Label elements:	None.	
2.2a	GHS label elements, including precautionary		
	statements:		
2.2b	Contains:		
2.2c	Labeling in accordance with (EC) No. 1272/2008:		
2.2d	Hazard Pictograms (Hazard Symbols):	None.	
2.2e	Signal word:	None.	
2.2f	Hazard statements:	None.	
2.2g	Precautionary statements:	None.	
2.2h	Supplementary precaution statements:	None.	
2.3	Other hazards:	No additional information available.	
2.3a	Does the chemical meet the criteria for PBT or vPvB?	Not applicable.	
2.3b	Other hazards which do not result in classification:	Contains sodium chloride and phosphates which are below the	
		threshold for hazard classification, but may cause redness and	
		irritation after prolonged exposure.	
Sectio	on 3: Composition/information on ingredients		
	on 3: Composition/information on ingredients Substance:	Item is a mixture therefore Section 3.1 is not applicable; see Section	
		Item is a mixture therefore Section 3.1 is not applicable; see Section 3.2.	
3.1		· ·	
3.1	Substance:	3.2.	
3.1	Substance: Mixture:	3.2.	
3.1	Substance: Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are	3.2.	
3.1	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels:	3.2. Item is a mixture.	
3.1	Substance: Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are	3.2.	
3.1	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels:	3.2. Item is a mixture.	
3.1 3.2 Sectio	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: 3.2a Chemical identity: on 4: First aid measures	3.2. Item is a mixture. No ingredients identified for reporting in this section.	
3.1 3.2 Sectio	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: 3.2a Chemical identity:	3.2. Item is a mixture. No ingredients identified for reporting in this section. If concerned, get medical attention/advice and provide physician with	
3.1 3.2 Sectio	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: 3.2a Chemical identity: on 4: First aid measures	3.2. Item is a mixture. No ingredients identified for reporting in this section. If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before re-use. Never	
3.1 3.2 Sectio 4.1	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: 3.2a Chemical identity: on 4: First aid measures Description of first aid measures:	3.2. Item is a mixture. No ingredients identified for reporting in this section. If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before re-use. Never give anything to an unconscious person.	
3.1 3.2 Sectio	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: 3.2a Chemical identity: on 4: First aid measures	3.2. Item is a mixture. No ingredients identified for reporting in this section. If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before re-use. Never	

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6.4	Reference to other sections:	Section 13). Wash spill area thoroughly with plenty of soap and water. Avoid contact with skin or inhalation of spillage, dust, or vapour. Refer to Sections 8 and 13 for additional information.
6.3	Methods and materials for containment and clean up:	Contain any spills with dikes or absorbent materials to prevent migration and entry into sewers or water sources. Place in a suitable container for disposal in accordance with local waste regulations (see
6.2	precautions, protective equipment and emergency procedures: Environmental precautions:	avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Do not allow to enter drains, sewers, or watercourses.
6.1c	Advice for emergency responders; personal	contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied air respirator, in case of
		and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any
6.1b	Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes,
6.1a	emergency procedures: General release measures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult
6.1	Personal precautions, protective equipment, and	Use protective equipment appropriate for surrounding materials.
Soction	on 6: Accidental release measures	<u> </u>
5.3a 5.3b	Special firefighting procedures: Special protective equipment and precautions for firefighters:	No specific firefighting procedure given. Wear full protective clothing, including self-contained breathing apparatus, if necessary. The product presents no special fire hazards in normal use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
5.3	Advice for firefighters:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
5.2c	Protective measures in fire:	Use protective equipment appropriate for surrounding materials.
5.2a 5.2b	Hazardous combustion products: Unusual fire & explosion hazards:	None under normal conditions. No unusual fire or explosion hazards noted.
5.10	Special hazards arising from the substance or mixture:	This product is not flammable. Product is not explosive. No dangerous reactions known under normal conditions of use.
5.1a 5.1b	Suitable extinguishing media: Unsuitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide. None known.
5.1	Extinguishing media:	This product is not flammable. Use fire-extinguishing media appropriate for the surrounding materials.
Section	on 5: Firefighting measures	- processing of a process
4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal protective equipment.
4.2d 4.3	Ingestion: Indication of any immediate medical attention and special treatment needed:	May cause discomfort if swallowed. No specific first aid measures noted, but first aid may still be required in case of accidental exposure, inhalation, or ingestion of this product. If in doubt, get medical attention promptly!
4.2c	Eye contact:	May cause temporary eye irritation.
4.2a 4.2b	Inhalation: Skin contact:	May cause coughing or mild irritation. Prolonged skin contact may cause redness and mild irritation.
4.2	Most important symptoms and effects, both acute and delayed:	Contains sodium azide, sodium chloride, and phosphates which are below the threshold for hazard classification, but may cause redness and irritation after prolonged exposure.
4.1 u	ingestion.	FLUIDS! Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if any discomfort continues.
4.1d	Ingestion:	Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK
4.1c	Eye contact:	clothing and shoes and wash thoroughly before reuse. Get medical attention if any discomfort continues. Promptly wash eyes with plenty of water while lifting the eyelids. Make sure to remove any contact lenses from the eyes before rinsing.
		continue to rinse for at least 15 minutes. Remove any contaminated

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Continu	n 7. Handling and storage	
7.1	n 7: Handling and storage Precautions for safe handling:	Do not handle until all safety precautions have been read and
7.1	Trecautions for safe nanding.	understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate personal protection equipment (PPE). Thoroughly wash hands and contaminated areas with water and soap before leaving the work site.
		Keep away from sources of ignition.
7.1a	Prevent handling of incompatible substances or mixtures:	Avoid contact with strong acids and strong oxidizers.
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Good personal hygiene is necessary. Follow good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any incompatibilities:	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid spills and release into the environment; keep away from watercourses.
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
	n 8: Exposure controls/personal protection	
8.1	Control parameters:	Notice as activated forms
8.1a	Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure limit), etc.: WEL = Workplace Exposure Limit. Sk = can be absorbed through skin.	Not in respirable form.
8.1b 8.1c	Appropriate engineering controls: Individual protection measures, such as personal protective equipment:	. Wear gloves, protective goggles, and lab coat.
8.1d	Safety symbols:	
8.2	Exposure controls:	,
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.
8 2~	Ventilation controls:	Provide adequate ventilation.
8.2c		
8.2d	Reference to other sections:	Refer to Section 5 for additional information.
8.2d 8.2e	Eye/face protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing.
8.2d 8.2e 8.2f	Eye/face protection: Skin protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact.
8.2d 8.2e 8.2f 8.2g	Eye/face protection: Skin protection: Hand protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact.
8.2d 8.2e 8.2f 8.2g 8.2h	Eye/face protection: Skin protection: Hand protection: Respiratory equipment:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
8.2d 8.2e 8.2f 8.2g 8.2h	Eye/face protection: Skin protection: Hand protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact.
8.2d 8.2e 8.2f 8.2g 8.2h	Eye/face protection: Skin protection: Hand protection: Respiratory equipment:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
8.2d 8.2e 8.2f 8.2g 8.2h	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use.
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls: n 9: Physical and chemical properties Information on basic physical and chemical	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use.
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j 8.2i 8.2j	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls: n 9: Physical and chemical properties Information on basic physical and chemical properties:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use. Not determined.
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j 8.2i 8.2j Section 9.1	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls: n 9: Physical and chemical properties Information on basic physical and chemical properties: Appearance (physical state, color, etc.):	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use. Not determined.
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j 8.2i 8.2j Section 9.1 9.1a 9.1b	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls: n 9: Physical and chemical properties Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use. Not determined.
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2j 8.2i 8.2j Section 9.1	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls: n 9: Physical and chemical properties Information on basic physical and chemical properties: Appearance (physical state, color, etc.):	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use. Not determined.
8.2d 8.2e 8.2f 8.2g 8.2h 8.2i 8.2i 8.2j 8.2k 8.2l Section 9.1 9.1a 9.1b 9.1c	Eye/face protection: Skin protection: Hand protection: Respiratory equipment: Other protection: Hygiene measures: Thermal hazards: Environmental exposure controls: n 9: Physical and chemical properties Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor: Odor threshold:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact. Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Wear appropriate clothing to avoid skin contact. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated None known under normal conditions of use. Not determined.

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0.1~		tive: 05/26/2017; Supersedes: F17-685-2-C; Page 4 of 6
9.1g	Flash point (°C):	Not applicable.
9.1h 9.1i	Evaporation rate: Flammability (solid, gas):	Not determined. Not applicable.
9.1j	Upper/lower flammability or explosive limits:	Not applicable.
9.1k	Vapor pressure:	Not determined.
9.11	Vapor density (Air =1):	Not determined.
9.1m	Relative density:	Not determined.
9.1n	Solubility(ies):	Soluble in water.
9.10	Partition coefficient (N-octanol/water):	Not determined.
9.1p	Auto-ignition temperature (°C):	Not determined.
9.1q	Decomposition temperature (°C):	Not determined.
9.1r	Viscosity:	Not determined.
9.1s	Explosive properties:	Not determined.
9.1t	Oxidizing properties:	Not determined.
9.2	Other information:	None.
9.2a	Other physical or chemical parameters:	None.
Continu	40. Stability and reactivity	
10.1	10: Stability and reactivity Reactivity:	No data available
10.1	Chemical stability:	No data available. Stable under normal temperature conditions.
10.2	Possibility of hazardous reactions:	Hazardous polymerization: will not polymerize.
10.3	Conditions to avoid:	To avoid product degradation, avoid exposure to high temperatures or
		direct sunlight or light.
10.5	Incompatible materials:	No data available.
10.6	Hazardous decomposition products:	None under normal conditions.
	11: Toxicological information	
11.1	Information on toxicological effects:	
11.1a	Name:	10X Assay Buffer
11.1b	Acute toxicity:	Not determined.
11.1c	Skin corrosion/irritation:	Not determined.
11.1d	Serious eye damage/irritation:	Not determined.
11.1e	Respiratory or skin sensitization:	Not determined.
11.1f	Germ cell mutagenicity:	Not determined.
11.1g 11.1h	Carcinogenicity: Reproductive toxicity:	Not determined. Not determined.
11.11i	STOT-single exposure:	Not determined.
11.1i	STOT-single exposure:	Not determined.
11.1k	Aspiration hazard:	Not determined.
11.11	Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	May enter by skin and/or eye contact; inhalation of vapors/mist/dust.
11.1m 11.1n	Ingestion: Inhalation:	May cause discomfort if swallowed. In high concentrations, vapors may irritate throat and respiratory
	militari.	system and cause coughing.
11.1o	Skin contact:	Liquid may irritate skin and cause redness.
11.1p	Eye contact:	Spray and vapor in the eyes may cause irritation and smarting.
11.1q	Symptoms related to the physical, chemical and toxicological characteristics:	No specific symptoms noted.
11.1r	Delayed and immediate effects as well as chronic effects from short and long term exposure:	Not determined.
11.1s	Numerical measures of toxicity (such as acute toxicity estimates):	Not determined.
11.1t	Interactive effects:	Not determined.
11.1u	Absence of specific data:	Not applicable.
11.1v	Mixtures:	Item is a mixture.
11.1w	Mixture vs. substance information:	See Section 3 for any substances in the mixture.
11.1x	Classification by National Toxicity Program (NTP):	Not classified.
11.1y	Classification by International Agency for Research on Cancer (IARC):	Not classified.
11.1z	Classification by OSHA 13:	Not classified.
11.1ab	Other information:	None.
	12: Ecological information	
12.1	Toxicity:	
12.1a	Name:	10X Assay Buffer.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	No data available.
12.2	Persistence and degradability:	There are no data on the degradability of this product.
12.3 12.4	Bioaccumulative potential:	No data available on bioaccumulation. The product is soluble in water.
12.4	Mobility in soil: Results of PBT and vPvB assessment:	The product is soluble in water. Not determined.
12.5	NESULIS OFFDE AND VEVD ASSESSIBLETT.	NOT UCTAININGU.

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	13: Disposal considerations	
3.1	Waste treatment methods:	When handling waste, consideration should be made to the safety precautions applying to handling of the product.
3.1a	Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:	Dispose of waste and residues in accordance with local authority requirements. For the safety of persons conducting disposal, recycling or reclamation activities, please refer to the information in Section 8 (exposure controls and personal protection) of the SDS.
Section	14: Transport information	
4.1	UN number:	Not applicable.
4.2	UN proper shipping name:	Not applicable.
4.3	Transport hazard class(es):	Not applicable.
4.4	Packing group:	Not applicable.
4.5	Environmental hazards:	
4.5a	Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?:	No.
4.5b	Is it a marine pollutant according to the IMDG code?:	No.
4.6	Special precautions for user:	None known.
4.7	Transport in bulk according to Annex II of MARPOL and the IBC code:	Not applicable.
14.7a 14.7b	Other information: Classification for other modes of transport:	The product is not considered a dangerous good for transport. Contact supplier.
5ection 15.1	15: Regulatory information Safety, health and environmental	
10.1	regulations/legislation specific for the substance or mixture:	
5.1a	Regional safety, health and environmental	
J	regulations specific for the product in question:	
5.1b	USA SARA Components (such as 302/311/313):	Not listed.
5.1c	USA Massachusetts Right to Know:	Not listed.
5.1d	USA Pennsylvania Right to Know:	Not listed.
5.1e	USA New Jersey Right to Know:	Not listed.
5.1f 5.1g	USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}:	Not listed.
5.1g 5.1h	Annex XIV substances subject to authorization:	Not listed.
5.1i	Substances of very high concern:	Not listed.
5.1j	Approved code of practice:	Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.
5.1k	Guidance notes:	Workplace exposure limits EH40.
15.11	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
5.2a	Other regulatory information:	None.
Section 16.1	16: Other information Other information:	
6.1 a	Date of revision:	26-May-2017
6.1b	SDS number and revision:	F17-685-2-D
6.1c	Supersedes SDS number and revision:	F17-685-2-C
6.1d	Changes made to the previous version of the SDS:	Reviewed and updated document control numbers.
16.1e	Key/legend to abbreviations and acronyms used in the SDS:	ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE Acute Toxicity Estimate. BCF Bio Concentration Factor.

		in combination with any other materials o knowledge and belief, accurate and reliab	or in any process. Such information is, to the best of the company ole as of the date indicated. However, no warranty guarantee or eliability, or completeness. It is the user's responsibility to satisfy
ISCL /	stateme	ents not written out in full elsewhere: This information relates only to the speci	│ fic material designated and may not be valid for such material use
6.1f		tt of hazard statements and/or precautionary	All statements were written out in full.
			vPvB very Persistent very bioaccumulative.
			USA United States of America.
			STOT-SE Specific Target Organ Toxicity - Single Exposure. UN United Nations.
			STOT-RE Specific Target Organ Toxicity - Repeated Exposure.
			STOT Specific Target Organ Toxicity.
			SDS Safety Data Sheet.
			SARA Superfund Amendments and Reauthorization Act. SCBA Self-Contained Breathing Apparatus.
			SADT Self-Accelerating Decomposition Temperature.
			Dangerous Goods by Rail.
			RID The Regulations concerning the International Carriage of
			PEL Permissible Exposure Limit.
			OSHA Occupational Safety and Health Administration (USA). PBT Persistent, Bioaccumulative, and Toxic.
			OEL Occupational Exposure Limit.
			Pollution From Ships, 1973 as modified by the Protocol of 1978.
			MARPOL 73/78 International Convention for the Prevention of
			LogPow logarithm of the octanol/water partition coefficient.
			LC50 Median lethal concentration. LD50 Median lethal dose.
			IMDG International Maritime Dangerous Goods.
			IC50 Half maximal inhibitory concentration.
			IBC Intermediate Bulk Container.
			IATA International Air Transport Association.
			Chemicals. H Statement GHS Hazard statement.
			GHS Globally Harmonized System of Classification and Labelling of
			EU European Union.
			ELINCS European List of Notified Chemical Substances.
			EINECS European Inventory of Existing Commercial chemical Substances.
			with the Control of Substances Hazardous to Health Regulations.
			EH40 Resource containing the list of workplace exposure limits for u
			EC50 Half maximal effective concentration.
			EC European Commission.
			COD Chemical Oxygen Demand.
			CLP Classification, Labelling and Packaging. CMR Carcinogen, Mutagen or Reproductive toxicant.

himself as to the suitability of such information for his own particular use.

END OF SDS



SAFETY DATA SHEET (SDS) according to Regulation (EC) No. 830/2015 amending 1907/2006

	n 1: Identification of the substance/mixture and of t		
1.1	Product identifier:	CCCP	
1.1a	Other means of identification:		
1.1b	Alternative product name(s)/ synonyms:	Carbonyl cyanide 3-chlorophenylhydrazone; [(3-Chlorophenyl)hydrazono]malononitrile. It is at 50 mM in DMSO.	
1.1c	Product number/Catalog #(s):	5140, 6257, 6258	
1.1d	Internal identification:	CCCP	
1.2	Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.	
1.2a	Brief description of what the substance or mixture is intended to do:	To depolarize mitochondrial membranes.	
1.3	Details of the supplier of the SDS:		
1.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)	
1.3b	Address:	9401 James Avenue South, Suite 155	
1.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA	
1.3d	Phone number:	1-800-829-3194 and 952-888-8788	
1.3e	Fax number:	952-888-8988	
1.3f	Website:	www.immunochemistry.com	
1.3g	Email:	help@immunochemistry.com	
1.3h	Contact person at ICT:	Quality Documentation Department	
1.4	Emergency telephone number:	ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide; ICT hours are 9 am-5 pm central time USA, Monday through Friday (excluding holidays). Chemtrec 24-hour access within USA and Canada: 1-800-424-9300 or +1 703-527-3887. Collect calls accepted.	
	n 2: Hazards identification		
2.1	Classification of the substance or mixture:	Out store on	
2.1a	Product is a:	Substance.	
2.1b	Classification according to (EC) No. 1272/2008 (CLP):	Flammable Liquids (Category 4) H227 (USA only) Skin Irritation (Category 2) H315 Eye Irritation (Category 2) H319	
2.1c	The most important adverse physiochemical, human health, and environmental effects:	Refer to Sections 9-12.	
2.2	Label elements:		
2.2a	GHS label elements, including precautionary statements:		
2.2b 2.2c	Contains: Labeling in accordance with (EC) No. 1272/2008:	[(3-Chlorophenyl)hydrazono]malononitrile <1% in Dimethyl sulfoxide.	
2.2d	Hazard Pictograms (Hazard Symbols):		
		GHS07 Exclamation mark.	
2.2e	Signal word:	Warning.	
2.2f	Hazard statements:	H227 Combustible liquid (USA only). H315 Causes skin irritation.	
2.2~	Propositionary etatements:	H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other	
2.2g	Precautionary statements:	ignition sources. No smoking. P264 Wash hands/skin thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.	
		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. P313 Get medical advice/attention	
		P313 Get medical advice/attention. P321a Specific treatment: see first aid advice on this label. P370+P378 In case of fire: use dry sand, dry chemical or alcoholresistant foam to extinguish.	
		P403+P235 Store in a well-ventilated place. Keep cool.	

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			plant.	ntents/container to an approved waste disposal
2.2h	Supplementary precaution s	tatements:	P332+P313 If skin	irritation occurs: get medical advice/attention. irritation persists: get medical advice/attention.
				off contaminated clothing and wash it before reuse.
2.3	Other hazards:			
2.3a 2.3b	Does the chemical meet the Other hazards which do not		Not applicable. No information ava	silabla
2.30	Other nazarus which do not	Tesuit in classification.	NO IIIIOITIIalioti ava	anable.
Section	n 3: Composition/information	on on ingredients		
3.1	Substance:		Item is a substance	-
	3.1a Chemical identity: 3.1b Common name, synonyms, etc.: 3.1c CAS number and other unique identifiers: 3.1d EC number:		[(3-Chlorophenyl)h CCCP;	ydrazono]malononitrile
			Propanedinitrile, 2- Propanedinitrile, [(Carbonyl cyanide, 2-[2-(3-Chloropher 3.1e % Concentration:	-[2-(3-chlorophenyl)hydrazinylidene]-; 3-chlorophenyl)hydrazono]-; 3-chlorophenylhydrazone; nyl)hydrazinylidene]propanedinitrile. 3.1f Classification according to (EC) No. 1272/2008 {CLP}:
	555-60-2	209-103-7	<1%	H301 + H311 + H331 Toxic if swallowed, in contact with skin, or if inhaled. Acute Tox 3. H315 Causes skin irritation. Skin Irrit. 2. H319 Causes serious eye irritation. Eye Irrit. 2. H335 May cause respiratory irritation. STOT SE 3.
3.1g	Chemical identity of any impurity, stabilizing additive, or individual constituent other than the main constituent, which is itself classified and which contributes to the classification (such as product identifier, trade name, identification numbers):		Product contains the w/w. DMSO CAS #67-6 DMSO EC #200-60	
3.1h	Other information on the sul		DMSO: Chemical formula:	C ₂ H ₆ SO; Molecular Weight: 78.13 g/mol
			CCCP: Chemical formula:	C ₉ H ₅ CIN ₄ ; Molecular Weight: 204.62 g/mol
2.0	Mississa		Itom is a substans	a therefore Costion 2.2 is not applicable; and
3.2	Mixture: The chemical identity and concentration ranges of all i hazardous and are present	ngredients which are	Section 3.1.	e, therefore Section 3.2 is not applicable; see
0	. A First sid			
4.1	n 4: First aid measures Description of first aid me	asures:	If concerned get m	nedical attention/advice and provide physician with
7.1	besomption of mist and me	usures.	SDS information. Vigive anything by m	Wash contaminated clothing before reuse. Never nouth to an unconscious person.
4.1a	Inhalation:		fresh air and keep breathing, give arti	ackaging the risk of inhalation is minimal. Remove to at rest in a comfortable position for breathing. If not ficial respiration. Rinse nose and mouth with water. ion if any discomfort continues.
4.1b	Skin contact:		Wash skin thoroug continue to rinse for clothing and shoes attention if any disc	phly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues.
4.1c	Eye contact:		sure to remove any Continue to rinse for discomfort continue	
4.1d	Ingestion:		FLUIDS! Rinse mo	UNCONSCIOUS PERSON VOMIT OR DRINK buth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues.
4.2	Most important symptoms and delayed:	and effects, both acute		
4.2a 4.2b	Inhalation: Skin contact:		None known. Causes skin irritati	on
4.20 4.2c	Eye contact:		Causes skin irritati	
4.2d	Ingestion:		None known.	
4.3	Indication of any immedia special treatment needed:		in case of accident	d measures noted, but first aid may still be required tal exposure, inhalation, or ingestion of this product. dical attention promptly!
4.3a	Notes to physician/first resp	onder:		ally. Refer to Sections 5-8 for advice on personal
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	CCCI 3D3, D0C# 1 17-3140-2-C, Ellective	protective equipment			
		protective equipment.			
Saction	Section 5: Firefighting measures				
5.1	Extinguishing media:	Use fire-extinguishing media appropriate for the surrounding materials.			
5.1a 5.1b	Suitable extinguishing media: Unsuitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide. None known.			
5.2	Special hazards arising from the substance or	Combustible liquid. In a fire or if heated, the container may burst. No			
5.2a	mixture: Hazardous combustion products:	dangerous reactions known under normal conditions of use. In case of fire, toxic gases may be formed of carbon monoxide (CO),			
5.Za	riazardous combustion products.	carbon dioxide (CO ₂ ; CO _x). None under normal conditions.			
5.2b	Unusual fire & explosion hazards:	No unusual fire or explosion hazards noted.			
5.2c	Protective measures in fire:	Use protective equipment appropriate for surrounding materials.			
5.3 5.3a	Advice for firefighters:	No appoiding fire fighting procedure given			
5.3b	Special firefighting procedures: Special protective equipment and precautions for	No specific firefighting procedure given. Wear full protective clothing, including self-contained breathing			
	firefighters:	apparatus, if necessary. The product is combustible.			
Section	n 6: Accidental release measures				
6.1	Personal precautions, protective equipment, and emergency procedures:				
6.1a	General release measures:	Use protective equipment appropriate for surrounding materials. No			
		specific emergency measures are required other than good laboratory			
		hygiene and safety practices for small spills. Wear suitable protective			
		clothing, gloves and eye or face protection. Consult professional			
0.41	Adding for your	emergency personnel if concerned (see Section 8).			
6.1b	Advice for non-emergency personnel; personal	No specific emergency measures are required other than good			
	precautions, protective equipment and emergency	laboratory hygiene and safety practices. Wear suitable protective			
	procedures:	clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case			
		of emergency (also refer to Section 8). Remove all sources of ignition.			
		Ensure adequate ventilation and control dust/mist. Avoid breathing			
		vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable			
		protective clothing, gloves and eye or face protection to prevent any			
		contamination. Consult professional emergency personnel if			
		concerned.			
6.1c	Advice for emergency responders; personal	Wear suitable protective clothing, gloves and eye or face protection to			
00	precautions, protective equipment and emergency	avoid contact; use an approved supplied-air respirator, in case of			
	procedures:	emergency (also refer to Section 8).			
6.2	Environmental precautions:	Do not allow to enter drains, sewers, or watercourses.			
6.3	Methods and materials for containment and	Contain any spills with dikes or absorbent materials to prevent			
	clean up:	migration and entry into sewers or water sources. Place in a suitable			
		container for disposal in accordance with local waste regulations (see			
		Section 13). Wash spill area thoroughly with plenty of soap and water.			
		Avoid contact with skin or inhalation of spillage, dust, or vapor.			
6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.			
	n 7: Handling and storage				
7.1	Precautions for safe handling:	Do not handle until all safety precautions have been read and			
		understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of			
		vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate			
		personal protection equipment (PPE). Thoroughly wash hands and			
		contaminated areas with water and soap before leaving the work site. Keep away from heat, hot surfaces, sparks, open flames, and other			
		ignition sources.			
7.1a	Prevent handling of incompatible substances or	Avoid contact with strong acids, strong oxidizing substances, strong			
7.1a	mixtures:	reducing agents, acid chlorides and phosphorus halides.			
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use.			
		Remove contaminated clothing and protective equipment before			
		entering eating areas. Good personal hygiene is necessary. Follow			
		good laboratory hygiene and safety practices.			
7.2	Conditions for safe storage, including any	Refer to product label. Store in cool place. Keep container tightly			
	incompatibilities:	closed in a dry and well-ventilated place. Containers which are opened			
		must be carefully resealed and kept upright to prevent leakage. Avoid			
		spills and release into the environment; keep away from watercourses.			
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.			
Section	n 8: Exposure controls/personal protection				
8.1	Control parameters:				
8.1a	Occupational exposure limits, such as chemical	Dimethyl sulfoxide:			
54	identity, standard, TWA-8 hours (time weighted	US WEEL Workplace Environmental Exposure Levels			
	average), STEL-15 minutes (short term exposure	TWA: 250 PPM 8-hours			
	, p	•			

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	limit), etc.: WEL = Workplace Exposure Limit. Sk =	[(3-Chlorophenyl)hydrazono]malononitrile:
	can be absorbed through skin.	None
8.1b	Appropriate engineering controls:	
8.1c	Individual protection measures, such as personal	Wear gloves, protective goggles, and lab coat.
00	protective equipment:	Troat groves, protective geggies, and tax coats
8.1d	Safety symbols:	
8.2	Exposure controls:	
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.
8.2c	Ventilation controls:	Provide adequate ventilation.
8.2d	Reference to other sections:	Refer to Section 5 for additional information.
8.2e	Eye/face protection:	Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing.
8.2f	Skin protection:	Wear apron or protective clothing in case of contact.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2h	Respiratory equipment:	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
8.2i	Other protection:	Wear appropriate clothing to avoid skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated.
8.2k	Thermal hazards:	None known under normal conditions of use.
8.21	Environmental exposure controls:	Not determined.
Section 9.1	9: Physical and chemical properties Information on basic physical and chemical properties:	Most of the physical and chemical properties for CCCP in DMSO are unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO).
9.1	Information on basic physical and chemical properties:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO).
	Information on basic physical and chemical	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for
9.1 9.1a	Information on basic physical and chemical properties: Appearance (physical state, color, etc.):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow.
9.1a 9.1b 9.1c 9.1d	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available.
9.1a 9.1b 9.1c 9.1d 9.1e	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F)
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO).
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F)
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1)
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k 9.1l	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k 9.1l 9.1n 9.1n 9.1n	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k 9.1l 9.1n 9.1n 9.1n 9.1n	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F).
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k 9.1l 9.1n 9.1n 9.1n 9.1o 9.1n	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Decomposition temperature (°C):	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F). > 190°C (> 374°F).
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9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1j 9.1k 9.1l 9.1n 9.1n 9.1n 9.1n 9.1o 9.1p 9.1q 9.1r 9.1s 9.1t	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Decomposition temperature (°C): Viscosity: Explosive properties: Oxidizing properties:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F). > 190°C (> 374°F). 2.14 mPa.s at 20°C Not explosive. Not determined.
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9.1 9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1j 9.1i 9.1i 9.1i 9.1i 9.1y 9.1h 9.1u 9.1u	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Decomposition temperature (°C): Viscosity: Explosive properties: Oxidizing properties: Other information: Other physical or chemical parameters:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F). > 190°C (> 374°F). 2.14 mPa.s at 20°C Not explosive. Not determined. None.
9.1 9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1j 9.1i 9.1i 9.1i 9.1n 9.1n 9.1n 9.1o 9.1p 9.1r 9.1s 9.1t 9.2 9.2a Section	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Decomposition temperature (°C): Viscosity: Explosive properties: Oxidizing properties: Other information: Other physical or chemical parameters:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F). > 190°C (> 374°F). 2.14 mPa.s at 20°C Not explosive. Not determined. None. None.
9.1 9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1j 9.1i 9.1i 9.1i 9.1i 9.1y 9.1h 9.1u 9.1u	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Decomposition temperature (°C): Viscosity: Explosive properties: Oxidizing properties: Other information: Other physical or chemical parameters:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F). > 190°C (> 374°F). 2.14 mPa.s at 20°C Not explosive. Not determined. None. Stable under normal conditions and use. Forms explosive mixtures
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1j 9.1i 9.1i 9.1j 9.1k 9.1l 9.1n 9.1n 9.1n 9.1o 9.1p 9.1q 9.1r 9.1s 9.1t 9.2 9.2a Section	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold: pH: Melting point/freezing point (°C): Initial boiling point and boiling range: Flash point (°C): Evaporation rate: Flammability (solid, gas): Upper/lower flammability or explosive limits: Vapor pressure: Vapor density (Air =1): Relative density: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Decomposition temperature (°C): Viscosity: Explosive properties: Oxidizing properties: Other information: Other physical or chemical parameters:	unknown. Except for the appearance (physical state and color) listed in box 9.1a, the physical and chemical properties listed below are for Dimethyl sulfoxide (DMSO). Liquid; yellow. Characteristic. Not determined. No data available. 18.5°C (65.3°F) 189°C (372°F) @ 1013 hPa 87°C (189°F) - closed cup - ASTM D 93 (pure DMSO). Not determined. Not applicable. Upper explosion limit: 42% (V) Lower explosion limit: 3.5% (V) 0.55 hPa (0.41 mmHg) at 20°C (68°F) 4 hPa (3 mmHg) at 50°C (122°F) 2.7 (Air=1) 1.1g/cm³ at 20°C Soluble in water. log Pow: -1.349. 300 - 302°C (572 - 576°F). > 190°C (> 374°F). 2.14 mPa.s at 20°C Not explosive. Not determined. None. None.

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10.3	Possibility of hazardous reactions:	Hazardous polymerization will not occur. Risk of explosion with: acetylidene, organic halides, perchlorates, acid chlorides, nonmetalic halides, iron (III) compounds, nitrates, fluorides, chlorates, hydrides, perchloric acid, Oxides of phosphorus, Nitric acid, silver compounds, silicon compounds, silanes, acid halides. Exothermic reaction with: boron compounds, oxyhalogenic compounds, potassium, sodium, strong oxidizing agents, phosphorus halides, strong reducing agents, acid chlorides, strong acids, silver salt, nitogen dioxide. Risk of ignition or formation of inflammable gases or vapors with: potassium permanganate.
10.4	Conditions to avoid:	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. Avoid exposure to high temperatures or direct sunlight.
10.5	Incompatible materials:	Strong acids. Strong oxidizing substances. Strong reducing agents. Acid chlorides. Phosphorus halides.
10.6	Hazardous decomposition products:	Fire creates: vapors/gases/fumes of: carbon monoxide (CO); carbon dioxide (CO ₂); nitrous gases (NO _x); hydrogen chloride (HCI); hydrogen cyanide (HCN).
Section	11: Toxicological information	
11.1	Information on toxicological effects:	
11.1a	Name:	[(3-chlorophenyl)hydrazono]malononitrile suspended in Dimethyl sulfoxide (DMSO)
11.1b	Acute toxicity:	LD50 Oral - Rat - 14,500 mg/kg LD50 Dermal - Rat - 40,000 mg/kg
11.1c	Skin corrosion/irritation:	Dimethyl sulfoxide (DMSO) Skin – Mild Irritant - 24 hours exposure with 500 mg rabbit. Eyes – Mild Irritant - 24 hours exposure with 500 mg rabbit. May cause skin irritation with susceptible persons.
11.1d	Serious eye damage/irritation:	Not determined.
11.1e 11.1f	Respiratory or skin sensitization: Germ cell mutagenicity:	Not determined. Not determined.
11.1g	Carcinogenicity:	Not determined.
11.1h	Reproductive toxicity:	Not determined.
11.1i	STOT-single exposure:	[(3-chlorophenyl)hydrazono]malononitrile: Category 3 - Respiratory tract irritation.
11.1j	STOT-repeated exposure:	Not determined.
11.1k 11.1l	Aspiration hazard: Information on the likely routes of exposure	Not determined.
11 1	(inhalation, ingestion, skin and eye contact):	None
11.1m 11.1n	Ingestion: Inhalation:	None.
11.10	Skin contact:	Causes skin irritation.
11.1p	Eye contact:	Causes serious eye irritation.
11.1q	Symptoms related to the physical, chemical and toxicological characteristics:	No specific symptoms noted.
11.1r	Delayed and immediate effects as well as chronic effects from short and long term exposure:	Not determined.
11.1s	Numerical measures of toxicity (such as acute toxicity estimates):	Not determined.
11.1t	Interactive effects:	Not determined.
11.1u	Absence of specific data:	Not applicable.
11.1v	Mixtures:	Not applicable.
11.1w	Mixture vs. substance information:	Not applicable.
11.1x 11.1y	Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC):	Not classified. Not classified.
11.1z	Classification by OSHA 13:	Not classified.
11.12 11.1ab	Other information:	None.
Section	12: Ecological information	
12.1	Toxicity:	
12.1a	Name: Ecotoxicity (aquatic and terrestrial, where available):	Dimethyl sulfoxide (DMSO) and [(3-Chlorophenyl)hydrazono]malononitrile. Dimethyl sulfoxide (DMSO): Fish: LC50 96 hours 34,000 mg/l Pimephales promelas (fat-head minnow). LC50 96 hours 35,000 mg/l Onchorhynchus mykiss (rainbow trout). [(3-Chlorophenyl)hydrazono]malononitrile: Daphnia: LC50 159.11 mg/l Fresh water Daphnia pulex (water flea)

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12.2	Persistence and degradability:	No data available.
12.3	Bioaccumulative potential:	No data available.
12.4	Mobility in soil:	Mobility in soil is unknown (the product is soluble in water).
12.5	Results of PBT and vPvB assessment:	Not determined.
12.6	Other adverse effects:	No data available.
	13: Disposal considerations	
13.1	Waste treatment methods:	
13.1a	Description of waste residues and information on	When handling waste, consideration should be made to the safety
	their safe handling and methods of disposal, including the disposal of any contaminated	precautions applying to handling of the product. Waste to be treated as
	packaging:	controlled waste. Disposal to licensed waste disposal site in accordance with local waste disposal authority. Dispose of waste and
	packaging.	residues in accordance with local authority requirements. Please refer
		to the information in Section 8 (exposure controls and personal
		protection) of the SDS.
		p. 0.000 (1.00 0.00 0.00 0.00 0.00 0.00 0
Section	14: Transport information	
14.1	UN number:	Not applicable.
14.2	UN proper shipping name:	Not applicable.
14.3	Transport hazard class(es):	Not applicable.
14.4	Packing group:	Not applicable.
14.5	Environmental hazards:	
14.5a	Is it environmentally dangerous according to UN	No.
	Model Regulations (IMDG Code, ADR, RID, and	
14.5b	ADN)?: Is it a marine pollutant according to the IMDG	No.
14.50	code?:	NO.
14.6	Special precautions for user:	None known.
14.7	Transport in bulk according to Annex II of	Not applicable.
	MARPOL and the IBC code:	1101 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
14.7a	Other information:	The product is not considered a dangerous good for transport.
14.7b	Classification for other modes of transport:	Contact supplier.
	15: Regulatory information	
15.1	Safety, health and environmental	
	regulations/legislation specific for the substance	
	or mixture:	
15.1a	Regional safety, health and environmental	
45.41	regulations specific for the product in question:	0.4.0.4.4.0.4.0.4.0.4.0.4.1.1.1.1.1.1.1.
15.1b	USA SARA Components (such as 302/311/313):	SARA 311/312: Immediate (Acute) Health Hazard (Dimethyl sulfoxide
15.1c	USA Massachusetts Right to Know:	and [(3-Chlorophenyl)hydrazono]malononitrile). Not listed.
15.1d	USA Pennsylvania Right to Know:	Not listed.
15.1d	USA New Jersey Right to Know:	DMSO (CAS #67-68-5) is listed.
15.16	USA California Prop. 65 Components:	Not listed.
15.1g	EU Regulation 1907/2006 {REACH}:	
15.1h	Annex XIV substances subject to authorization:	Not listed.
15.1i	Substances of very high concern:	Not listed.
15.1j	Approved code of practice:	Classification and labeling of substances and preparations dangerous
		for supply. Safety data sheets for substances and preparations.
15.1k	Guidance notes:	Workplace exposure limits EH40.
4= **		Workplace Environmental Exposure Levels US WEEL.
15.11	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of
		substances and mixtures (CLP Regulation). EC 830/2015. Regulation
		(EC) No 1907/2006 of the European Parliament and of the Council of
		18 December 2006 concerning the Registration, Evaluation,
		Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and
		repealing Council Regulation (EEC) No 793/93 and Commission
		Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC
		and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and
		2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2a	Other regulatory information:	None.
	16: Other information	
16.1	Other information:	
16.1a	Date of revision:	08/17/2017
16.1b 16.1c	SDS number and revision:	F17-5140-2-C
10 1C	Supersedes SDS number and revision:	F17-5140-2-B
16.1d	Changes made to the previous version of the SDS:	Section 2 (Hazards identification): addition of P statements

	0001 000, 000#1 11-01-0-2-0, Ellective	e: 08/17/2017; Supersedes: F17-5140-2-B; Page 7 of 7 P370+P378, P403+P235, P501, P362+P364, Section 9 (Physical and
		chemical properties): edits/additional information added to: odor, pH,
		melting point/freezing point, boiling point, vapor density, solubility(ies)
		viscosity fields. Minor edits/additions to items: 3.1g, 3.1h, 4.1, 5.2b,
		7.1a, 10.1, 10.2, 10.3, 10.5, 11.1a, 11.1b, 11.1c, 12.4, 13.1a.
6.1e	Key/legend to abbreviations and acronyms used in	ACGIH American Conference of Governmental Industrial Hygienists.
6. TE	the SDS:	
	the SDS.	ADN European Provisions concerning the International Carriage of
		Dangerous Goods by Inland Waterway.
		ADR The European Agreement concerning the International Carriage
		of Dangerous Goods by Road.
		ATE Acute Toxicity Estimate.
		BCF Bio Concentration Factor.
		CAS Chemical Abstracts Service.
		CLP Classification, Labelling and Packaging.
		CMR Carcinogen, Mutagen or Reproductive toxicant.
		COD Chemical Oxygen Demand.
		EC European Commission.
		EC50 Half maximal effective concentration.
		EH40 Resource containing the list of workplace exposure limits for us
		with the Control of Substances Hazardous to Health Regulations.
		EINECS European Inventory of Existing Commercial chemical
		Substances.
		ELINCS European List of Notified Chemical Substances.
		EU European Union.
		GHS Globally Harmonized System of Classification and Labelling of
		Chemicals.
		H Statement GHS Hazard statement.
		IATA International Air Transport Association.
		IBC Intermediate Bulk Container.
		IC50 Half maximal inhibitory concentration.
		IMDG International Maritime Dangerous Goods.
		LC50 Median lethal concentration.
		LD50 Median lethal dose.
		LogPow logarithm of the octanol/water partition coefficient.
		MARPOL 73/78 International Convention for the Prevention of
		Pollution From Ships, 1973 as modified by the Protocol of 1978.
		OEL Occupational Exposure Limit.
		OSHA Occupational Safety and Health Administration (USA).
		PBT Persistent, Bioaccumulative, and Toxic.
		PEL Permissible Exposure Limit.
		RID The Regulations concerning the International Carriage of
		Dangerous Goods by Rail.
		SADT Self-Accelerating Decomposition Temperature.
		SARA Superfund Amendments and Reauthorization Act.
		SCBA Self-Contained Breathing Apparatus.
		SDS Safety Data Sheet.
		STOT Specific Target Organ Toxicity.
		STOT-RE Specific Target Organ Toxicity - Repeated Exposure.
		STOT-SE Specific Target Organ Toxicity - Single Exposure.
		UN United Nations.
		USA United States of America.
		vPvB very Persistent very bioaccumulative.
		WEEL Workplace Environmental Exposure Levels (USA).
6.1f	Full text of hazard statements and/or precautionary	All statements were written out in full.
	statements not written out in full elsewhere:	
)ISCL/	AIMER: This information relates only to the speci	fic material designated and may not be valid for such material use
		or in any process. Such information is, to the best of the company's
		ble as of the date indicated. However, no warranty guarantee or
		eliability, or completeness. It is the user's responsibility to satisfy

representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

END OF SDS