MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effective: 06/22/2017; Supersedes: F17-657-4-A; Page 1 of 7



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

.1a	Product identifier:	MitoPT [®] TMRM
.1a	Other means of identification:	
.1b	Alternative product name(s)/ synonyms:	TMRM; tetramethylrhodamine methyl ester perchlorate.
.1c	Product number/Catalog #(s):	6256
.1d	Internal identification:	TMRM; tetramethylrhodamine methyl ester perchlorate
.2	Relevant identified uses of the substance or	For research use only. Not for use in diagnostic procedures.
	mixture and uses advised against:	
.2a	Brief description of what the substance or mixture is	Mitochondrial stain and potentiometric dye for cellular research.
	intended to do:	
.3	Details of the supplier of the SDS:	
.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)
.3b	Address:	9401 James Avenue South, Suite 155
.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA
.3d	Phone number:	1-800-829-3194 and 952-888-8788
.3e	Fax number:	952-888-8988
.3f	Website:	www.immunochemistry.com
.3g	Email:	help@immunochemistry.com
.3h	Contact person at ICT:	Quality Documentation Department
.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
		Canada. 1-600-424-9300 01 +1 703-527-3667. Conect cans accepted
Sectio	n 2: Hazards identification	
2.1	Classification of the substance or mixture:	
.1a	Product is a:	Substance.
.1b	Classification according to (EC) No. 1272/2008	Skin Irrit. 2 H315.
	{CLP}:	Eye Irrit. 2A H319.
		STOT SE 3 H335.
2.1c	The most important adverse physiochemical, human	Refer to Sections 9-12.
	health, and environmental effects:	
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):	
		GHS07 Exclamation mark.
2.2e	Signal word:	Warning.
2.2e 2.2f	Signal word: Hazard statements:	Warning. H315 Causes skin irritation.
		Warning. H315 Causes skin irritation. H319 Causes serious eye irritation.
2.2f	Hazard statements:	Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation
		Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust.
2.2f	Hazard statements:	Warning.H315 Causes skin irritation.H319 Causes serious eye irritation.H335 May cause respiratory irritationP261 Avoid breathing dust.P264 Wash hands thoroughly after handling.
2.2f	Hazard statements:	Warning.H315 Causes skin irritation.H319 Causes serious eye irritation.H335 May cause respiratory irritationP261 Avoid breathing dust.P264 Wash hands thoroughly after handling.P271 Use only outdoors or in a well-ventilated area.
2.2f	Hazard statements:	Warning.H315 Causes skin irritation.H319 Causes serious eye irritation.H335 May cause respiratory irritationP261 Avoid breathing dust.P264 Wash hands thoroughly after handling.P271 Use only outdoors or in a well-ventilated area.P280 Wear protective gloves/protective clothing/eye protection/face
2.2f	Hazard statements:	Warning.H315 Causes skin irritation.H319 Causes serious eye irritation.H335 May cause respiratory irritationP261 Avoid breathing dust.P264 Wash hands thoroughly after handling.P271 Use only outdoors or in a well-ventilated area.P280 Wear protective gloves/protective clothing/eye protection/face protection.
2.2f	Hazard statements:	Warning.H315 Causes skin irritation.H319 Causes serious eye irritation.H335 May cause respiratory irritationP261 Avoid breathing dust.P264 Wash hands thoroughly after handling.P271 Use only outdoors or in a well-ventilated area.P280 Wear protective gloves/protective clothing/eye protection/faceprotection.P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and
2.2f	Hazard statements:	Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
2.2f	Hazard statements:	Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and keel
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and kee comfortable for breathing. Call a POISON CENTER or physician if years
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and kee comfortable for breathing. Call a POISON CENTER or physician if y feel unwell.
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and kee comfortable for breathing. Call a POISON CENTER or physician if y feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for seve
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and kee comfortable for breathing. Call a POISON CENTER or physician if y feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for seve minutes. Remove contact lenses, if present and easy to do. Continu
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and key comfortable for breathing. Call a POISON CENTER or physician if y feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for seve minutes. Remove contact lenses, if present and easy to do. Continu rinsing.
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and kee comfortable for breathing. Call a POISON CENTER or physician if y feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for seve minutes. Remove contact lenses, if present and easy to do. Continurinsing. P332+P313 If skin irritation occurs: Get medical advice/attention.
2.2f	Hazard statements:	 Warning. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation P261 Avoid breathing dust. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352+P362+P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P304+P340+P312 IF INHALED: Remove person to fresh air and kee comfortable for breathing. Call a POISON CENTER or physician if yr feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for seve minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effective: 06/22/2017; Supersedes: F17-657-4-A; Page 2 of 7

	MitoPT-TMRM S	DS; D0C# F17-6254-4-A; Effec		ersedes: F17-657-4-A; Page 2 of 7
0 0h	Supplementary presention	statamanta:	regional, national a None.	and international regulations.
2.2h 2.3	Supplementary precaution s Other hazards:	statements:	None. No additional inform	mation available
2.3a	Does the chemical meet the	e criteria for PBT or vPvB2	Not applicable.	
2.3a 2.3b	Other hazards which do not		No information ava	ilable
2.00			No information ava	
Sectio	on 3: Composition/informati	on on ingredients		
3.1	Substance:		Item is a substance	9.
	3.1a Chemical identity:		MitoPT TMRM	
	3.1b Common name, synor	iyms, etc.:	Chemical formula:	
	3.1c CAS number and		<u>3.1e %</u>	3.1f Classification according to (EC) No.
	other unique identifiers:	3.1d EC number:	Concentration:	1272/2008 {CLP}:
	115532-50-8	None.	100%	Skin Irrit. 2, H315
				Eye Irrit. 2A, H319 STOT SE 3, H335
3.1g	Chemical identity of any imp	purity, stabilizing additive,	None known.	
- 3	or individual constituent oth			
	constituent, which is itself c			
	contributes to the classification			
	identifier, trade name, ident			
3.1h	Other information on the su	bstance:	Chemical Formula:	
			Molecular Weight:	501 g/moi
3.2	Mixture:		Item is a substance	e, therefore Section 3.2 is not applicable; see
3.2	The chemical identity and c	concentration or	Section 3.1.	
	concentration ranges of all		0001011 0.11	
	hazardous and are present			
	· · ·			
	on 4: First aid measures		T	
4.1	Description of first aid me	esures:		nedical attention/advice and provide physician with
				Vash contaminated clothing before reuse. Never
4.1a	Inhalation:			outh to an unconscious person. ackaging the risk of inhalation is minimal. Remove to
4.1a				at rest in a comfortable position for breathing. If not
				ficial respiration. Rinse nose and mouth with water.
				on if any discomfort continues.
4.1b	Skin contact:			hly with soap and water for several minutes;
				or at least 15 minutes. Remove any contaminated
			clothing and shoes and wash thoroughly before reuse. Get medical	
	-		attention if any disc	comfort continues.
4.1c	Eye contact:			es with plenty of water while lifting the eyelids. Make
				y contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any
			discomfort continue	
4.1d	Ingestion:			UNCONSCIOUS PERSON VOMIT OR DRINK
		Ingestion:		
			FLUIDS! Rinse mo	uth thoroughly. Do not induce vomiting without
			advice from poison	uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical
4.2			advice from poison attention if any disc	outh thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues.
	Most important symptoms	s and effects, both acute	advice from poison attention if any disc Refer to Sections 2	uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical
1 20	and delayed:	s and effects, both acute	advice from poison attention if any disc Refer to Sections 2 effects.	outh thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and
4.2a	and delayed: Inhalation:	s and effects, both acute	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat	outh thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation.
4.2b	and delayed: Inhalation: Skin contact:	s and effects, both acute	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritatio	outh thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation.
4.2b 4.2c	and delayed: Inhalation: Skin contact: Eye contact:	s and effects, both acute	advice from poison attention if any disc Refer to Sections 2 effects. May cause respira Causes skin irritatio Causes serious ey	outh thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation.
4.2b	and delayed: Inhalation: Skin contact:	·	advice from poison attention if any disc Refer to Sections 2 effects. May cause respira Causes skin irritati Causes serious ey May cause discom	outh thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation.
4.2b 4.2c 4.2d	and delayed: Inhalation: Skin contact: Eye contact: Ingestion:	ate medical attention and	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid	auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed.
4.2b 4.2c 4.2d 4.3	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed	ate medical attention and	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med	auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly!
4.2b 4.2c 4.2d	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia	ate medical attention and	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic	auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal
4.2b 4.2c 4.2d 4.3	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed	ate medical attention and	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med	auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal
4.2b 4.2c 4.2d 4.3 4.3a	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp	ate medical attention and	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic	auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal
4.2b 4.2c 4.2d 4.3 4.3a	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures	ate medical attention and	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme	Auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent.
4.2b 4.2c 4.2d 4.3 4.3a Sectio 5.1	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media:	ate medical attention and : ponder:	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme	A control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent.
4.2b 4.2c 4.2d 4.3 4.3a Sectio 5.1 5.1a	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media: Suitable extinguishing media	ate medical attention and : ponder: dia:	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme Use fire-extinguish Water spray, foam	Auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent.
4.2b 4.2c 4.2d 4.3 4.3a 4.3a 5.1 5.1a 5.1b	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media: Suitable extinguishing media	ate medical attention and : bonder: dia: nedia:	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme Use fire-extinguish Water spray, foam None known.	Auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent.
4.2b 4.2c 4.2d 4.3 4.3a Sectio 5.1 5.1a	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media: Suitable extinguishing media	ate medical attention and : bonder: dia: nedia:	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme Use fire-extinguish Water spray, foam None known. Thermal decompose	A control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent.
4.2b 4.2c 4.2d 4.3 4.3a 4.3a 5.1 5.1a 5.1b	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media: Suitable extinguishing media Unsuitable extinguishing media Special hazards arising for the second	ate medical attention and conder: dia: nedia: from the substance or	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme Use fire-extinguish Water spray, foam None known. Thermal decompos and vapors. Carbon oxides, Nit	Auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent. ing media appropriate for the surrounding materials. , dry powder, or carbon dioxide. sition can lead to release of toxic/corrosive gases rogen oxides (NOx), Phosgene.
4.2b 4.2c 4.2d 4.3a 4.3a 5.1a 5.1a 5.1b 5.2a 5.2a 5.2b	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media: Suitable extinguishing media: Suitable extinguishing media: Special hazards arising finiture:	ate medical attention and : bonder: dia: nedia: from the substance or oducts:	advice from poison attention if any disc Refer to Sections 2 effects. May cause respirat Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme Use fire-extinguish Water spray, foam None known. Thermal decompos and vapors. Carbon oxides, Nit No unusual fire or	Auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent. ing media appropriate for the surrounding materials. , dry powder, or carbon dioxide. sition can lead to release of toxic/corrosive gases rogen oxides (NOx), Phosgene. explosion hazards noted.
4.2b 4.2c 4.2d 4.3a 4.3a 5.1a 5.1a 5.1b 5.2a	and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia special treatment needed Notes to physician/first resp on 5: Firefighting measures Extinguishing media: Suitable extinguishing med Unsuitable extinguishing med Unsuitable extinguishing med Material measures Extinguishing media: Suitable extinguishing media: Special hazards arising for mixture: Hazardous combustion pro-	ate medical attention and : bonder: dia: nedia: from the substance or oducts: azards:	advice from poison attention if any disc Refer to Sections 2 effects. May cause respira Causes skin irritati Causes serious ey May cause discom No specific first aid in case of accident If in doubt, get med Treat symptomatic protective equipme Use fire-extinguish Water spray, foam None known. Thermal decompos and vapors. Carbon oxides, Nit No unusual fire or Use protective equi	auth thoroughly. Do not induce vomiting without a control center or medical professional. Get medical comfort continues. 2 and 11 for most important known symptoms and tory irritation. on. e irritation. fort if swallowed. I measures noted, but first aid may still be required al exposure, inhalation, or ingestion of this product. dical attention promptly! ally. Refer to Sections 5-8 for advice on personal ent. ing media appropriate for the surrounding materials. , dry powder, or carbon dioxide. sition can lead to release of toxic/corrosive gases rogen oxides (NOx), Phosgene.

MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effec	tive: 06/22/2017; Supersedes: F17-657-4-A; Page 3 of 7

	MitoP1-IMRM SDS; Doc# F17-6254-4-A; Effect	ctive: 06/22/2017; Supersedes: F17-657-4-A; Page 3 of 7 ignition sources. No smoking.
5.3a	Special firefighting procedures:	No specific firefighting procedure given.
5.3b	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 in normal use. Keep away from heat, hot surfaces, sparks, open
		flames and other ignition sources. No smoking.
	· · · · · · ·	
	n 6: Accidental release measures	
6.1	Personal precautions, protective equipment, and emergency procedures:	Use protective equipment appropriate for surrounding materials.
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 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
	precautions, protective equipment and emergency	avoid contact; use an approved supplied-air respirator, in case of
6.2	procedures: Environmental precautions:	emergency (also refer to Section 8). 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
0.0	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.
~ 1		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.
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.
7.41	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 frozen. Refer to product label. Keep container tightly closed in a
	incompatibilities:	dry and well-ventilated place. Containers which are opened must be
		carefully resealed and kept upright to prevent leakage. Avoid spills and
7.3	Specific end use(s):	release into the environment; keep away from watercourses. For research use only. Not for use in diagnostic procedures.
1.5		
Sectio 8.1	n 8: Exposure controls/personal protection Control parameters:	
8.1a	Occupational exposure limits, such as chemical	Not available.
2.10	identity, standard, TWA-8 hours (time weighted	
	average), STEL-15 minutes (short term exposure	
	limit), etc.: WEL = Workplace Exposure Limit. Sk =	
016	can be absorbed through skin.	
8.1b 8.1c	Appropriate engineering controls: Individual protection measures, such as personal	Wear gloves, protective goggles, and lab coat.
0.10	protective equipment:	יייטמי שטיפט, איטופטוייב שטעשובט, מווע ומט טטמו.
8.1d	Safety symbols:	
	- 	

MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effective: 06/22/2017; Supersedes: F17-657-4-A; Page 4 of 7 Exposure controls:

8.2	MitoPT-TMRM SDS; Doc# F17-6254-4-A; Ef	nective. 00/22/2017, Supersedes. F17-057-4-A, Fage 4 017
8.2 8.2a	Exposure controls: 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 8.2j	Other protection: Hygiene measures:	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.
8.2k	Thermal hazards:	None known under normal conditions of use.
8.21	Environmental exposure controls:	Not determined.
Section	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	Initial boiling point and boiling range:	No data available.
9.1g	Flash point (°C):	Not applicable.
9.1h	Evaporation rate:	Not applicable.
9.1i	Flammability (solid, gas):	No data available.
9.1j 9.1k	Upper/lower flammability or explosive limits: Vapor pressure:	No data available. No data available.
9.1k 9.1l	Vapor density (Air =1):	No data available.
9.1m 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	Oxidizing properties:	No data available.
9.2	Other information:	Molecular weight: 501
9.2a	Other physical or chemical parameters:	No additional information available.
Section 10.1	n 10: Stability and reactivity Reactivity:	No data available.
10.2	Chemical stability:	Stable under recommended handling and storage conditions (see 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.
	n 11: Toxicological information	
11.1	Information on toxicological effects:	
11.1a	Name:	MitoPT TMRM
11.1a 11.1b	Acute toxicity:	Not classified.
11.1a		

MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effective: 06/22/2017; Supersedes: F17-657-4-A; Page 5 of 7

	MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effe	
11.1f	Germ cell mutagenicity:	Not determined.
11.1g	Carcinogenicity:	Not determined.
11.1h	Reproductive toxicity:	Not determined.
11.1i	STOT-single exposure:	
		May cause respiratory tract irritation.
11.1j	STOT-repeated exposure:	Not determined.
11.1k	Aspiration hazard:	Not determined.
11.11	Information on the likely routes of exposure	May enter by ingestion; skin and/or eye contact; inhalation of
	(inhalation, ingestion, skin and eye contact):	vapors/mist/dust.
11.1m	Ingestion:	May cause discomfort if swallowed.
11.1n	Inhalation:	May cause respiratory irritation.
11.10	Skin contact:	Causes skin irritation.
11.1p	Eye contact:	Causes serious eye irritation.
11.1q	Symptoms related to the physical, chemical and	No specific symptoms noted.
	toxicological characteristics:	
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	Not determined.
	toxicity estimates):	
44.4+		Not data regined
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.
11.1x	Classification by International Agency for Research	Not classified.
-	on Cancer (IARC):	
11.1z	Classification by OSHA 13:	Not classified.
11.1ab	Other information:	None.
Section	12: Ecological information	
	12: Ecological information	
12.1	Toxicity:	•
12.1a	Name:	MitoPT TMRM.
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.
	Mobility in soil:	No data available.
12.4		
12.5	Results of PBT and vPvB assessment:	Not determined.
12.5	Results of PBT and vPvB assessment:	Not determined.
12.5 12.6	Results of PBT and vPvB assessment: Other adverse effects:	Not determined.
12.5 12.6 Section	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations	Not determined. No data available.
12.5 12.6 Sectior 13.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product.
12.5 12.6 Section	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. Dispose of waste and residues in accordance with local authority
12.5 12.6 Sectior 13.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product.
12.5 12.6 Sectior 13.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal,	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. Dispose of waste and residues in accordance with local authority requirements. For the safety of persons conducting disposal, recycling
12.5 12.6 Sectior 13.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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
12.5 12.6 Sectior 13.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal,	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. Dispose of waste and residues in accordance with local authority requirements. For the safety of persons conducting disposal, recycling
12.5 12.6 Sectior 13.1 13.1a	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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
12.5 12.6 Section 13.1 13.1a	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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.
12.5 12.6 Section 13.1 13.1a Section 14.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable.
12.5 12.6 Section 13.1 13.1a	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable.
12.5 12.6 Section 13.1 13.1a Section 14.1 14.2	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a Section 14.1 14.2 14.3	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es):	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.4	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.4 14.5	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.4	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.4 14.5	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.4 14.5	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.4 14.5 14.5a	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. No.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.4 14.5	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable.
12.5 12.6 Section 13.1 13.1a Section 14.1 14.2 14.3 14.4 14.5 14.5a 14.5b	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable. No. No.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable. No. No. No. None known.
12.5 12.6 Section 13.1 13.1a Section 14.1 14.2 14.3 14.4 14.5 14.5a 14.5b	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable. No. No.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable. No. No. No. None known.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.5 14.5a 14.5b 14.6 14.7	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable. No. No. No. None known. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. No. None known. Not applicable. Not applicable. No. No. No. No applicable. No. No. No. No applicable. No.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.5 14.5a 14.5b 14.6 14.7	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. Not applicable. No. No. No. None known. Not applicable.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a 14.7a 14.7b	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. No. None known. Not applicable. Not applicable. No. No. No. No applicable. No. No. No. No applicable. No.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a 14.7b Section	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. None known. Not applicable. Not applicable. The product is not considered a dangerous good for transport.
12.5 12.6 Section 13.1 13.1a 13.1a Section 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a 14.7a 14.7b	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmental lazards: Is it a marine pollutant according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. None known. Not applicable. Not applicable. The product is not considered a dangerous good for transport.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a 14.7b Section	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmental lazards: Is it a marine pollutant according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. None known. Not applicable. Not applicable. The product is not considered a dangerous good for transport.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a 14.7b Section	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. None known. Not applicable. Not applicable. The product is not considered a dangerous good for transport.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.5a 14.5a 14.5b 14.5b 14.7a 14.7b Section 15.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. No. None known. Not applicable. The product is not considered a dangerous good for transport. Contact supplier. .
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.5a 14.5b 14.5b 14.7a 14.7b Section	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. None known. Not applicable. The product is not considered a dangerous good for transport.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.4 14.5a 14.5b 14.5b 14.7a 14.7b Section 15.1a	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental regulations specific for the product in question:	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. No. No. No. None known. Not applier. . None known. None known. None known.
12.5 12.6 Section 13.1 13.1a 13.1a 13.1a 14.1 14.2 14.3 14.5a 14.5a 14.5b 14.5b 14.7a 14.7b Section 15.1	Results of PBT and vPvB assessment: Other adverse effects: 13: Disposal considerations Waste treatment methods: Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: 14: Transport information UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental	Not determined. No data available. When handling waste, consideration should be made to the safety precautions applying to handling of the product. 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. Not applicable. Not applicable. Not applicable. No. No. No. None known. Not applicable. The product is not considered a dangerous good for transport. Contact supplier. .

MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effective: 06/22/2017; Supersedes: F17-657-4-A; Page 6 of 7

	WITCH I-TWIKIW 3D3, DOC# F17-0234-4-A, EI	lective. 00/22/2017, Superseues. F17-037-4-A, Fage 0 017
15.1c	USA Massachusetts Right to Know:	Not listed.
15.1d	USA Pennsylvania Right to Know:	Not listed.
15.1e	USA New Jersey Right to Know:	Not listed.
15.1f	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.
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.

Section 16: Other information

	n 16: Other Information	
16.1	Other information:	
16.1a	Date of revision:	06/22/2017
16.1b	SDS number and revision:	F17-6254-4-A
16.1c	Supersedes SDS number and revision:	F17-657-4-A
16.1d	Changes made to the previous version of the SDS:	Updated to comply with EC 1272/2008 CLP regulations, EC 830/2015.
<u>16.1d</u> 16.1e	Changes made to the previous version of the SDS: Key/legend to abbreviations and acronyms used in the SDS:	 Updated to comply with EC 1272/2008 CLP regulations, EC 830/2015. 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. 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 Median lethal concentration. IMDG International Maritime Dangerous Goods. LC50 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 Safety and Health Administration (USA). PBT Persistent, Bioaccumulative, and Toxic. PEL Permissible Exposure Limit. SAAA Superfund Amendments and Reauthorization Act. SCBA Self-Contained Breathing Apparatus. SDS Safety Data Sheet. STOT Specific Target Organ Toxicity.

MitoPT-TMRM SDS; Doc# F17-6254-4-A; Effective: 06/22/2017; Supersedes: F17-657-4-A; Page 7 of 7

			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		of hazard statements and/or precautionary	All statements were written out in full.
	stateme	nts not written out in full elsewhere:	
DISCLAIMER: This information relates only to the spec in combination with any other materials knowledge and belief, accurate and relia representation is made to its accuracy, re		in combination with any other materials o knowledge and belief, accurate and reliab	ic material designated and may not be valid for such material used r in any process. Such information is, to the best of the company's le as of the date indicated. However, no warranty guarantee or liability, or completeness. It is the user's responsibility to satisfy nation for his own particular use.
	END OF SDS		

10X Assay Buffer SDS; Doc# F17-685-2-D; Effective: 05/26/2017; Supersedes: F17-685-2-C; Page 1 of 6

ImpunoChemistry TECHNOLOGIESLLC

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

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:	
1.2a	Brief description of what the substance or mixture is	A buffered diluent for use in research laboratory techniques.
	intended to do:	······································
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;
1.4		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
Sectio	on 2: Hazards identification	
2.1	Classification of the substance or mixture:	
2.1a	Product is a:	Mixture.
2.1b	Classification according to (EC) No. 1272/2008	Does not meet the criteria for classification.
2.10	{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.
2.2	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
2.00		threshold for hazard classification, but may cause redness and
		irritation after prolonged exposure.
Sectio	on 3: Composition/information on ingredients	
3.1	Substance:	Item is a mixture therefore Section 3.1 is not applicable; see Section
		3.2.
3.2	Mixture:	Item is a 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:	No ingredients identified for reporting in this section.
Sectio	on 4: First aid measures	
4.1	Description of first aid measures:	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.
4.1a	Inhalation:	Remove to fresh air and keep at rest in a comfortable position for
4.1a	Inhalation:	Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Rinse nose and

10X Assay Buffer SDS; Doc# F17-685-2-D; Effective: 05/26/2017; Supersedes: F17-685-2-C; Page 2 of 6

4.1b		tive: 05/26/2017; Supersedes: F17-685-2-C; Page 2 of 6
	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.
4.10	Eye contact:	Promptly wash eyes with plenty of water while lifting the eyelids. Make
4.1c	Eye contact.	Promptly wash eyes with pienty of water while inting the eyends. Make
		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.
4.1d	Ingestion:	NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK
		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	Contains sodium azide, sodium chloride, and phosphates which are
	and delayed:	below the threshold for hazard classification, but may cause redness
		and irritation after prolonged exposure.
4.2a	Inhalation:	May cause coughing or mild irritation.
4.2b	Skin contact:	Prolonged skin contact may cause redness and mild irritation.
4.2c	Eye contact:	May cause temporary eye irritation.
4.2d	Ingestion:	May cause discomfort if swallowed.
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!
4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal
4.0a		protective equipment.
-		
	on 5: Firefighting measures	
5.1	Extinguishing media:	This product is not flammable. 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.
	Created becards arising from the substance or	
5.2	Special hazards arising from the substance or	This product is not flammable. Product is not explosive. No dangerous
	mixture:	reactions known under normal conditions of use.
5.2a	Hazardous combustion products:	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	Advice for firefighters:	Keep away from heat, hot surfaces, sparks, open flames and other
5.5	Auvice for menginers.	
		ignition sources. No smoking.
5.3a	Special firefighting procedures:	No specific firefighting procedure given.
5.3b	Special protective equipment and precautions for	Wear full protective clothing, including self-contained breathing
	firefighters:	apparatus, if necessary. The product presents no special fire hazards
		in a superior of the second seco
		In normal use. Keep away from neat, not surfaces, sparks, open
		in normal use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		flames and other ignition sources. No smoking.
Sectio	n 6: Accidental release measures	
	on 6: Accidental release measures	flames and other ignition sources. No smoking.
Section 6.1	Personal precautions, protective equipment, and	
6.1	Personal precautions, protective equipment, and emergency procedures:	flames and other ignition sources. No smoking. Use protective equipment appropriate for surrounding materials.
	Personal precautions, protective equipment, and	flames and other ignition sources. No smoking. Use protective equipment appropriate for surrounding materials. No specific emergency measures are required other than good
6.1	Personal precautions, protective equipment, and emergency procedures:	flames and other ignition sources. No smoking. Use protective equipment appropriate for surrounding materials. No specific emergency measures are required other than good
6.1	Personal precautions, protective equipment, and emergency procedures:	flames and other ignition sources. No smoking. 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
6.1	Personal precautions, protective equipment, and emergency procedures:	flames and other ignition sources. No smoking. 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
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures:	flames and other ignition sources. No smoking. 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 emergency personnel if concerned (see Section 8).
6.1	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal	flames and other ignition sources. No smoking. 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 emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal	flames and other ignition sources. No smoking. 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 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,
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, and personal clothing; use an approved supplied-air respirator, in case
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition.
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, 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
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, 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
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, 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
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, 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
6.1a 6.1b	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	flames and other ignition sources. No smoking. 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 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, 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.
6.1 6.1a	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, 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
6.1a 6.1b	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal	flames and other ignition sources. No smoking. 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 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, 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.
6.1a 6.1b	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of
6.1a 6.1b 6.1c	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8).
6.1a 6.1b 6.1c 6.2	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions:	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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.
6.1a 6.1b 6.1c	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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. Contain any spills with dikes or absorbent materials to prevent
6.1a 6.1b 6.1c 6.2	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions:	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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. Contain any spills with dikes or absorbent materials to prevent migration and entry into sewers or water sources. Place in a suitable
6.1a 6.1b 6.1c 6.2	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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. Contain any spills with dikes or absorbent materials to prevent migration and entry into sewers or water sources. Place in a suitable
6.1a 6.1b 6.1c 6.2	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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. 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
6.1a 6.1b 6.1c 6.2	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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. 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 Section 13). Wash spill area thoroughly with plenty of soap and water.
6.1a 6.1b 6.1c 6.2	Personal precautions, protective equipment, and emergency procedures: General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and	flames and other ignition sources. No smoking. 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 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, 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. Wear suitable protective clothing, gloves and eye or face protection to 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. 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

Sectio	on 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 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.
Castia		
8.1	on 8: Exposure controls/personal protection Control parameters:	
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 8.2b	Process conditions: Engineering controls:	Provide eyewash station.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 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.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2ĥ	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).
<u>8.2i</u> 8.2j	Other protection: Hygiene measures:	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
8.2k	Thermal hazards:	None known under normal conditions of use.
8.2l	Environmental exposure controls: on 9: Physical and chemical properties	Not determined.
9.1	Information on basic physical and chemical properties	•
9.1a	Appearance (physical state, color, etc.):	Liquid; colorless.
0.41	Odor:	No characteristic odor.
9.1b		
9.1c	Odor threshold:	Not determined.

10X Assay Buffer SDS; Doc# F17-685-2-D; Effective: 05/26/2017; Supersedes: F17-685-2-C; Page 4 of 6

Section	n 10: Stability and reactivity	
10.1	Reactivity:	No data available.
10.2 10.3	Chemical stability: Possibility of hazardous reactions:	Stable under normal temperature conditions. 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 10.6	Incompatible materials: Hazardous decomposition products:	No data available. None under normal conditions.
10.0	nazaruous decomposition products:	
	n 11: Toxicological information	
11.1	Information on toxicological effects:	
<u>11.1a</u> 11.1b	Name: Acute toxicity:	10X Assay Buffer Not determined.
11.1c	Skin corrosion/irritation:	Not determined.
11.1d	Serious eye damage/irritation:	Not determined.
11.1e 11.1f	Respiratory or skin sensitization:	Not determined.
11.1r 11.1g	Germ cell mutagenicity: Carcinogenicity:	Not determined.
11.1h	Reproductive toxicity:	Not determined.
11.1i	STOT-single exposure:	Not determined.
<u>11.1j</u> 11.1k	STOT-repeated exposure: 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	Ingestion:	May cause discomfort if swallowed.
11.1n	Inhalation:	In high concentrations, vapors may irritate throat and respiratory system and cause coughing.
11.10	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.
<u>11.1w</u> 11.1x	Mixture vs. substance information: Classification by National Toxicity Program (NTP):	See Section 3 for any substances in the mixture. Not classified.
11.1y	Classification by International Agency for Research on Cancer (IARC):	Not classified.
11.1z	Classification by OSHA 13:	Not classified.
	Other information:	None.
11.1ab		
	n 12: Ecological information	
Section 12.1	Toxicity:	
Section 12.1 12.1a	Toxicity: Name:	10X Assay Buffer.
Section 12.1 12.1a 12.1b	Toxicity: Name: Ecotoxicity (aquatic and terrestrial, where available):	No data available.
Section 12.1 12.1a	Toxicity: Name:	

 10X Assay Buffer SDS; Doc# F17-685-2-D; Effective: 05/26/2017; Supersedes: F17-685-2-C; Page 5 of 6

 Other adverse effects:
 Not determined.

12.6	Other adverse effects:	Not determined.
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 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.
	packaying.	exposure controls and personal protection of the SDS.
	14: Transport information	1
	UN number:	Not applicable.
14.2	UN proper shipping name:	Not applicable.
14.3 14.4	Transport hazard class(es): Packing group:	Not applicable.
14.5	Environmental hazards:	
14.5a	Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?:	No.
14.5b	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	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 regulations specific for the product in question:	•
15.1b	USA SARA Components (such as 302/311/313):	Not listed.
15.1c 15.1d	USA Massachusetts Right to Know: USA Pennsylvania Right to Know:	Not listed.
	USA New Jersey Right to Know:	Not listed.
15.1f	USA California Prop. 65 Components:	Not listed.
15.1g	EU Regulation 1907/2006 {REACH}:	
	Annex XIV substances subject to authorization:	Not listed.
15.1i 15.1j	Substances of very high concern: Approved code of practice:	Not listed. Classification and labeling of substances and preparations dangerous
15.1k	Guidance notes:	for supply. Safety data sheets for substances and preparations dangerous 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 2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2a	Other regulatory information:	None.
Section	16: Other information	
16.1	Other information:	
16.1a	Date of revision:	26-May-2017
16.1b	SDS number and revision:	F17-685-2-D
16.1c 16.1d	Supersedes SDS number and revision: Changes made to the previous version of the SDS:	F17-685-2-C 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.
		BCF Bio Concentration Factor. CAS Chemical Abstracts Service.

10X Assay Buffer SDS; Doc# F17-685-2-D; Effective: 05/26/2017; Supersedes: F17-685-2-C; Page 6 of 6

10X Assay Buffer SDS; Doc# F17-685-2-D; Effective: 05/26/2017; Supersedes: F17-685-2	
CLP Classification, Labelling and Pa	
CMR Carcinogen, Mutagen or Repro	oductive toxicant.
COD Chemical Oxygen Demand.	
EC European Commission.	
EC50 Half maximal effective concer	tration.
EH40 Resource containing the list o	f workplace exposure limits for use
with the Control of Substances Haza	
EINECS European Inventory of Exis	
Substances.	
ELINCS European List of Notified C	hemical Substances
EU European Union.	nemical Substances.
GHS Globally Harmonized System of	of Classification and Labelling of
Chemicals.	or Classification and Labelling of
H Statement GHS Hazard statemen	
IATA International Air Transport Ass	ociation.
IBC Intermediate Bulk Container.	
IC50 Half maximal inhibitory concen	
IMDG International Maritime Danger	rous Goods.
LC50 Median lethal concentration.	
LD50 Median lethal dose.	
LogPow logarithm of the octanol/wa	ter partition coefficient.
MARPOL 73/78 International Conve	ntion for the Prevention of
Pollution From Ships, 1973 as modi	fied by the Protocol of 1978.
OEL Occupational Exposure Limit.	5
OSHA Occupational Safety and Hea	alth Administration (USA).
PBT Persistent, Bioaccumulative, ar	
PEL Permissible Exposure Limit.	
RID The Regulations concerning the	International Carriage of
Dangerous Goods by Rail.	, international barnage of
SADT Self-Accelerating Decomposit	tion Tomporaturo
SADT Self-Accelerating Decomposition SARA Superfund Amendments and	
SARA Superiority Amendments and SCBA Self-Contained Breathing App	
	Daratus.
SDS Safety Data Sheet.	
STOT Specific Target Organ Toxicit	
STOT-RE Specific Target Organ To	
STOT-SE Specific Target Organ To:	xicity - Single Exposure.
UN United Nations.	
USA United States of America.	
vPvB very Persistent very bioaccum	
16.1f Full text of hazard statements and/or precautionary All statements were written out in ful	II.
statements not written out in full elsewhere:	
DISCLAIMER: This information relates only to the specific material designated and may not 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. Howeve	
representation is made to its accuracy, reliability, or completeness. It is the u	ser's responsibility to satisfy
himself as to the suitability of such information for his own particular use.	
END OF SDS	

CCCP SDS; Doc# F17-5140-2-C; Effective: 08/17/2017; Supersedes: F17-5140-2-B; Page 1 of 7



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

1.1	n 1: Identification of the substance/mixture and of the Product identifier:	
	Other means of identification:	CCCP
1.1a		
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.
•		
Sectio 2.1	n 2: Hazards identification Classification of the substance or mixture:	
2.1a	Product is a:	Substance.
2.1a 2.1b	Classification according to (EC) No. 1272/2008	Flammable Liquids (Category 4) H227 (USA only)
2.10	{CLP}:	Skin Irritation (Category 2) H315
		Eye Irritation (Category 2) H319
2.1c	The most important adverse physiochemical, human	Refer to Sections 9-12.
2.10	health, and environmental effects:	
2.2	Label elements:	
2.2a	GHS label elements, including precautionary	•
2.20	statements:	
2.2b	Contains:	[(3-Chlorophenyl)hydrazono]malononitrile <1% in Dimethyl sulfoxide.
2.2c	Labeling in accordance with (EC) No. 1272/2008:	· · · · · · · · · · · · · · · · · · ·
2.2d	Hazard Pictograms (Hazard Symbols):	
		GHS07 Exclamation mark.
2.2e	Signal word:	GHS07 Exclamation mark. Warning.
2.2e 2.2f	Signal word: Hazard statements:	
		Warning.
		Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation.
		Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation.
2.2f	Hazard statements:	Warning.H227 Combustible liquid (USA only).H315 Causes skin irritation.H319 Causes serious eye irritation.P210 Keep away from heat/hot surfaces/sparks/open flames/other ignition sources. No smoking.
2.2f	Hazard statements:	Warning.H227 Combustible liquid (USA only).H315 Causes skin irritation.H319 Causes serious eye irritation.P210 Keep away from heat/hot surfaces/sparks/open flames/otherignition sources. No smoking.P264 Wash hands/skin thoroughly after handling.
2.2f	Hazard statements:	Warning.H227 Combustible liquid (USA only).H315 Causes skin irritation.H319 Causes serious eye irritation.P210 Keep away from heat/hot surfaces/sparks/open flames/other ignition sources. No smoking.
2.2f	Hazard statements:	Warning.H227 Combustible liquid (USA only).H315 Causes skin irritation.H319 Causes serious eye irritation.P210 Keep away from heat/hot surfaces/sparks/open flames/otherignition sources. No smoking.P264 Wash hands/skin thoroughly after handling.
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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.
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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.
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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.
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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.
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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.
2.2f	Hazard statements:	 Warning. H227 Combustible liquid (USA only). H315 Causes skin irritation. H319 Causes serious eye irritation. P210 Keep away from heat/hot surfaces/sparks/open flames/other 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. P321a Specific treatment: see first aid advice on this label.

CCCP SDS; Doc# F17-5140-2-C; Effective: 08/17/2017; Supersedes: F17-5140-2-B; Page 2 of 7

		P501 Dipose of contents/container to an approved waste disposal
		plant.
2.2h	Supplementary precaution statements:	P332+P313 If skin irritation occurs: get medical advice/attention.
		P337+P313 If eye irritation persists: get medical advice/attention.
		P362+P364 Take off contaminated clothing and wash it before reuse.
2.3	Other hazards:	•
2.3a	Does the chemical meet the criteria for PBT or vPvB?	Not applicable.
2.3b	Other hazards which do not result in classification:	No information available.

Section 3: Composition/information on ingredients

3.1					
	Substance:		Item is a substance.		
	3.1a Chemical identity:		[(3-Chlorophenyl)hydrazono]malononitrile CCCP; Propanedinitrile, 2-[2-(3-chlorophenyl)hydrazinylidene]-; Propanedinitrile, [(3-chlorophenyl)hydrazono]-; Carbonyl cyanide, 3-chlorophenylhydrazone;		
	3.1b Common name, synor	nyms, etc.:			
				yl)hydrazinylidene]propanedinitrile.	
	3.1c CAS number and		<u>3.1e %</u>	3.1f Classification according to (EC) No.	
	other unique identifiers:	<u>3.1d EC number:</u>	Concentration:	<u>1272/2008 {CLP}:</u>	
	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 im			ne stabilizer dimethyl sulfoxide (DMSO) at 99-100%	
	or individual constituent oth		w/w.		
	constituent, which is itself of		DMSO CAS #67-68		
	contributes to the classifica		DMSO EC #200-66	04-3.	
2.16	identifier, trade name, iden		DMCO		
3.1h	Other information on the su		DMSO:	C-H-SO: Molecular Weight: 79 42 a/mal	
			Chemical formula:	C ₂ H ₆ SO; Molecular Weight: 78.13 g/mol	
			CCCP:		
				C₀H₅CIN₄; Molecular Weight: 204.62 g/mol	
			Ononnour formula.		
3.2	Mixture:		Item is a substance	e, therefore Section 3.2 is not applicable; see	
-	The chemical identity and o	concentration or	Section 3.1.	,,	
	concentration ranges of all				
	hazardous and are present				
	* • •		*		
	on 4: First aid measures				
Section 4.1	on 4: First aid measures Description of first aid me	easures:		nedical attention/advice and provide physician with	
		easures:	SDS information. V	Vash contaminated clothing before reuse. Never	
4.1	Description of first aid me	easures:	SDS information. V give anything by m	Vash contaminated clothing before reuse. Never outh to an unconscious person.	
		easures:	SDS information. V give anything by m Due to the small pa	Vash contaminated clothing before reuse. Never outh to an unconscious person. ackaging the risk of inhalation is minimal. Remove to	
4.1	Description of first aid me	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep	Vash contaminated clothing before reuse. Never outh to an unconscious person. ackaging the risk of inhalation is minimal. Remove to at rest in a comfortable position for breathing. If not	
4.1	Description of first aid me	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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.	
4.1 4.1a	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues.	
4.1	Description of first aid me	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes;	
4.1 4.1a	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse for	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated	
4.1 4.1a	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse for clothing and shoes	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; r at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical	
4.1 4.1a 4.1b	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues.	
4.1 4.1a	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. s with plenty of water while lifting the eyelids. Make	
4.1 4.1a 4.1b	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing.	
4.1 4.1a 4.1b	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse for clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse for	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any	
4.14.1a4.1b4.1c	Description of first aid me Inhalation: Skin contact: Eye contact:	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. s with plenty of water while lifting the eyelids. Make of contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es.	
4.1 4.1a 4.1b	Description of first aid mo	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK	
4.14.1a4.1b4.1c	Description of first aid me Inhalation: Skin contact: Eye contact:	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without	
4.14.1a4.1b4.1c	Description of first aid me Inhalation: Skin contact: Eye contact:	easures:	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. s with plenty of water while lifting the eyelids. Make contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical	
4.1a4.1a4.1b4.1c4.1d	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion:		SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. s with plenty of water while lifting the eyelids. Make contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical	
4.14.1a4.1b4.1c	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom		SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. s with plenty of water while lifting the eyelids. Make contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical	
 4.1a 4.1a 4.1b 4.1c 4.1d 4.2 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed:		SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. s with plenty of water while lifting the eyelids. Make contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical	
 4.1a 4.1a 4.1b 4.1c 4.1d 4.2a 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation:		SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	
 4.1a 4.1a 4.1b 4.1c 4.1d 4.2a 4.2b 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation: Skin contact:		SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc None known. Causes skin irritation	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any as. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	
 4.1a 4.1a 4.1b 4.1c 4.1c 4.1d 4.2a 4.2b 4.2c 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation: Skin contact: Eye contact:		SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any as. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	
 4.1a 4.1a 4.1b 4.1c 4.1c 4.1d 4.2a 4.2b 4.2c 4.2d 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation: Skin contact: Eye contact: Ingestion:	s and effects, both acute	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc None known. Causes skin irritatio Causes serious eye None known.	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any as. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	
 4.1a 4.1a 4.1b 4.1c 4.1c 4.1d 4.2a 4.2b 4.2c 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Inhalation: Skin contact: Eye contact: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia	s and effects, both acute	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc None known. Causes skin irritatio Causes serious eye None known.	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	
 4.1a 4.1a 4.1b 4.1c 4.1c 4.1d 4.2a 4.2b 4.2c 4.2d 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation: Skin contact: Eye contact: Ingestion:	s and effects, both acute	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc None known. Causes skin irritatio Causes serious eye None known. No specific first aid in case of accident	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	
 4.1a 4.1a 4.1b 4.1c 4.1c 4.1d 4.2a 4.2b 4.2c 4.2d 	Description of first aid me Inhalation: Skin contact: Eye contact: Ingestion: Most important symptom and delayed: Inhalation: Skin contact: Eye contact: Ingestion: Inhalation: Skin contact: Eye contact: Inhalation: Skin contact: Eye contact: Ingestion: Indication of any immedia	s and effects, both acute ate medical attention and	SDS information. V give anything by m Due to the small pa fresh air and keep breathing, give artii Get medical attenti Wash skin thoroug continue to rinse fo clothing and shoes attention if any disc Promptly wash eye sure to remove any Continue to rinse fo discomfort continue NEVER MAKE AN FLUIDS! Rinse mo advice from poison attention if any disc None known. Causes skin irritatio Causes serious eye None known. No specific first aid in case of accident If in doubt, get med	Vash contaminated clothing before reuse. Never outh to an unconscious person. 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. on if any discomfort continues. hly with soap and water for several minutes; or at least 15 minutes. Remove any contaminated and wash thoroughly before reuse. Get medical comfort continues. Is with plenty of water while lifting the eyelids. Make or contact lenses from the eyes before rinsing. or at least 15 minutes. Get medical attention if any es. UNCONSCIOUS PERSON VOMIT OR DRINK uth thoroughly. Do not induce vomiting without control center or medical professional. Get medical comfort continues.	

CCCP SDS; Doc# F17-5140-2-C; Effective: 08/17/2017; Supersedes: F17-5140-2-B; Page 3 of 7

	<u>CCCI 3D3, D0t#117-5140-2-0, Litective</u>	protective equipment.
•		
	5: Firefighting measures	
5.1 5.1a	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.
5.10 5.2	Special hazards arising from the substance or	Combustible liquid. In a fire or if heated, the container may burst. No
5. Z	mixture:	dangerous reactions known under normal conditions of use.
5.2a	Hazardous combustion products:	In case of fire, toxic gases may be formed of carbon monoxide (CO),
0.24		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	Advice for firefighters:	
5.3a	Special firefighting procedures:	No specific firefighting procedure given.
5.3b	Special protective equipment and precautions for	Wear full protective clothing, including self-contained breathing
	firefighters:	apparatus, if necessary. The product is combustible.
	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
0.4		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
		concerned.
6.1c	Advice for emergency responders; personal	Wear suitable protective clothing, gloves and eye or face protection to
0.10	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.
Section	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
7.1a	Prevent handling of incompatible substances or	ignition sources. Avoid contact with strong acids, strong oxidizing substances, strong
	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
7.0	Conditions for safe stores including and	good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any incompatibilities:	Refer to product label. 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.
	8: Exposure controls/personal protection	
<u>8.1</u>	Control parameters:	Dimothul autovida
ø.1a		
8.1a	Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure	Dimethyl sulfoxide: US WEEL Workplace Environmental Exposure Levels TWA: 250 PPM 8-hours

CCCP SDS; Doc# F17-5140-2-C; Effective: 08/17/2017; Supersedes: F17-5140-2-B; Page 4 of 7

	limit), etc.: WEL = Workplace Exposure Limit. Sk =	[(3-Chlorophenyl)hydrazono]malononitrile:
0.41	can be absorbed through skin.	None
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:	
0.10	Callety 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 8.2e	Reference to other sections:	Refer to Section 5 for additional information.
o.ze	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
0.211		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 shif
		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.
	, , , , , , , , ,	
	n 9: Physical and chemical properties	Martial the sharing load above inclusion string (as 2000 in DM20 and
Sectio 9.1	Information on basic physical and chemical	Most of the physical and chemical properties for CCCP in DMSO are
	n 9: Physical and chemical properties Information on basic physical and chemical properties:	unknown. Except for the appearance (physical state and color) listed in
	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	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).
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.
9.1 9.1a 9.1b	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor:	 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.
9.1a 9.1b 9.1c	Information on basic physical and chemical properties: Appearance (physical state, color, etc.): Odor: Odor threshold:	 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.
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 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:	 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)
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):Upper/lower flammability or explosive limits:	 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)
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)
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 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:	 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 9.1d 9.1f 9.1g 9.1h 9.1i 9.1i 9.1i 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):	 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 9.1d 9.1f 9.1f 9.1h 9.1i 9.1i 9.1k 9.1l 9.1m	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:	 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 9.1d 9.1f 9.1f 9.1h 9.1i 9.1i 9.1k 9.1l 9.1l 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:	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 9.1i 9.1k 9.1l 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):	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 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 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):	 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 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 9.1n 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/cm ³ 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 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 9.1n 9.1n 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). > 190°C (> 374°F).
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1h 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 9.1n 9.1n 9.1n 9.1n 9.1n 9.1n 9.1s	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): Viscosity:	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
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1h 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 9.1n 9.1n 9.1n 9.1n 9.1n 9.1n 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: Solubility(ies): Partition coefficient (N-octanol/water): Auto-ignition temperature (°C): Viscosity: Explosive 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.
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): 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): 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 20°C (68°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.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 9.1n 9.1n 9.1n 9.1n 9.1n 9.1n 9.12 9.11 9.12 9.12 9.12 9.12 9.12 9.12	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): Viscosity: Explosive properties: Oxidizing properties: Oxidizing properties: Other information:	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.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1i 9.1i 9.1k 9.1l 9.1k 9.1l 9.1n 9.1n 9.1n 9.1n 9.1n 9.1c 9.11 9.11 9.12 9.12 9.12 9.12 9.12 9.12	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): Viscosity: Explosive properties: Oxidizing 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.
9.1a 9.1b 9.1c 9.1d 9.1e 9.1f 9.1g 9.1h 9.1i 9.1h 9.1i 9.1k 9.1l 9.1k 9.1n 9.1n 9.1n 9.1n 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): Viscosity: Explosive properties: Oxidizing properties: Oxidizing properties: Other information:	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.

10.2		: 08/17/2017; Supersedes: F17-5140-2-B; Page 5 of 7
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); hydroger
		cyanide (HCN).
Sectio	n 11: Toxicological information	
11.1	Information on toxicological effects:	
11.1a	Name:	[(3-chlorophenyl)hydrazono]malononitrile suspended in Dimethyl
11.14	Name.	sulfoxide (DMSO)
11.1b	A quita taviaiti "	
11.10	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	Respiratory or skin sensitization:	Not determined.
11.1f	Germ cell mutagenicity:	Not determined.
11.1g	Carcinogenicity:	Not determined.
11.1h	Reproductive toxicity:	Not determined.
11.1i	STOT-single exposure:	[(3-chlorophenyl)hydrazono]malononitrile:
	0707	Category 3 - Respiratory tract irritation.
11.1j	STOT-repeated exposure:	Not determined.
11.1k	Aspiration hazard:	Not determined.
11.11	Information on the likely routes of exposure	
	(inhalation, ingestion, skin and eye contact):	
11.1m	Ingestion:	None.
11.1n	Inhalation:	None.
11.10	Skin contact:	Causes skin irritation.
		Causes skin initiation.
11.1p	Eye contact:	
11.1q	Symptoms related to the physical, chemical and	No specific symptoms noted.
	toxicological characteristics:	
11.1r	Delayed and immediate effects as well as chronic	Not determined.
	effects from short and long term exposure:	
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.
Section	n 12: Ecological information	
12.1	Toxicity:	
<u></u>	Toxicity.	

12.1	l oxicity:	
12.1a	Name:	Dimethyl sulfoxide (DMSO) and [(3-
		Chlorophenyl)hydrazono]malononitrile.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	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)

CCCP SDS; Doc# F17-5140-2-C; Effective: 08/17/2017; Supersedes: F17-5140-2-B; Page 6 of 7

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.
Castia	n 42. Dispessel considerations	
3ection 13.1	n 13: Disposal considerations Waste treatment methods:	
13.1a	Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:	. When handling waste, consideration should be made to the safety precautions applying to handling of the product. Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local waste disposal authority. Dispose of waste and residues in accordance with local authority requirements. Please refer to the information in Section 8 (exposure controls and personal protection) of the SDS.
Sectio	n 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 Model Regulations (IMDG Code, ADR, RID, and ADN)?:	No.
14.5b	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	Other information:	The product is not considered a dangerous good for transport.
14.7b	Classification for other modes of transport:	Contact supplier.
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture:	•
15.1a	Regional safety, health and environmental	
15.1b	regulations specific for the product in question: 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.
	USA Pennsylvania Right to Know:	Not listed.
15.1e	USA New Jersey Right to Know:	DMSO (CAS #67-68-5) is listed.
15.1f	USA California Prop. 65 Components:	Not listed.
15.1g	EU Regulation 1907/2006 {REACH}:	
15.1g 15.1h	Annex XIV substances subject to authorization:	Not listed.
	· · · · · · · · · · · · · · · · · · ·	
<u>15.1i</u> 15.1j	Substances of very high concern: Approved code of practice:	Not listed. Classification and labeling of substances and preparations dangerous
15.1j	Guidance notes:	for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40.
15.1K	Guidance notes.	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 2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2 15.2a	Chemical safety assessment: Other regulatory information:	
15.2a	Other regulatory information:	Not required.
15.2a Section	Other regulatory information: n 16: Other information	Not required.
15.2a Section 16.1	Other regulatory information: n 16: Other information Other information:	Not required. None.
15.2a Section 16.1 16.1a	Other regulatory information: n 16: Other information Other information: Date of revision:	Not required. None. . 08/17/2017
15.2a Section 16.1	Other regulatory information: n 16: Other information Other information:	Not required. None.

CCCP SDS; Doc# F17-5140-2-C; Effective: 08/17/2017; Supersedes: F17-5140-2-B; Page 7 of 7

			D070 D070 D400 D005 D504 D000 D004 0 (* 0 (D) * 1
			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.
16.1e	Key/leg	end to abbreviations and acronyms used in	ACGIH American Conference of Governmental Industrial Hygienists.
	the SDS	S:	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 - Repeated Exposure.
			UN United Nations.
			USA United States of America.
			vPvB very Persistent very bioaccumulative.
C 41	E. II to	t of bozord statements and/or an aveilar	WEEL Workplace Environmental Exposure Levels (USA).
6.1f		t of hazard statements and/or precautionary	All statements were written out in full.
statements not written out in full elsewhere: ISCLAIMER: This information relates only to the			Ge motorial decimpated and may not be welld for such material use
JISCLA			fic material designated and may not be valid for such material used
			r in any process. Such information is, to the best of the company's
			le as of the date indicated. However, no warranty guarantee or
			liability, or completeness. It is the user's responsibility to satisfy
		himself as to the suitability of such inform	nation for his own particular use.
		F	ND OF SDS