

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

1.1	on 1: Identification of the substance/mixture and c	FAM-FLIVO®				
1.1a						
		•				
1.1b	Alternative product name(s)/ synonyms:	FAM-FLIVO Poly Caspsase Inhibitor, FAM-VAD-FLIVO, FAM-VAD-				
		FMK, In vivo Poly-Caspase Inhibitor Reagent; a carboxyfluorescein				
		derivative of valylalanylaspartic acid fluoromethyl ketone.				
1.1c	Product number/Catalog #(s):	6218				
1.1d	Internal identification:	FAM-FLIVO				
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 in intended to do:	mixture is In vivo caspase enzyme inhibitor and apoptosis detection reagent.				
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;				
	Emergency telephone number:	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: 1 600 121 6000 01 11 1 60 621 6001. Gonoot Gano accopted				
Section	on 2: Hazards identification					
2.1	Classification of the substance or mixture:					
2.1a	Product is a:	Substance.				
2.1b	Classification according to (EC) No. 1272/2008	Does not meet the criteria for classification.				
	{CLP}:					
2.1c The most important adverse physiochemical, human		n Refer to Sections 9-12.				
	health, and environmental effects:					
2.2						
2.2a	GHS label elements, including precautionary	None.				
	statements:					
2.2b	Contains:	None.				
2.2c	Labeling in accordance with (EC) No. 1272/2008:	None.				
2.2d	Hazard Pictograms (Hazard Symbols):	None.				
2.2e	Signal word:	None.				
2.2f	Hazard statements:	None.				
2.2g	Precautionary statements:	None.				
2.2h	Supplementary precaution statements:	None.				
2.3	Other hazards:	No additional information available.				
2.3a	Does the chemical meet the criteria for PBT or vPv					
2.3b	Other hazards which do not result in classification:	No information available.				
00	Carol Hazards which do not result in classification.	110 IIIOIIIIalioii avallabio.				
	on 3: Composition/information on ingredients					
3.1	Substance:	Item is a substance.				
	3.1a Chemical identity:	FAM-FLIVO				
	3.1b Common name, synonyms, etc.:	None.				
	3.1c CAS number and	3.1e % 3.1f Classification according to (EC) No.				
	other unique identifiers: 3.1d EC number:	Concentration: <u>1272/2008 {CLP}:</u>				
	None. None.	100% Not classified.				
	Chamical identity of any impurity atabilizing addition	o None known				
2 1~		e, None known.				
3.1g	Chemical identity of any impurity, stabilizing additive					
3.1g	or individual constituent other than the main					
3.1g	or individual constituent other than the main constituent, which is itself classified and which					
3.1g	or individual constituent other than the main constituent, which is itself classified and which contributes to the classification (such as product					
3.1g 3.1h	or individual constituent other than the main constituent, which is itself classified and which	None.				

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Sectio	n 4: First aid measures	100 2 2010, Oupersedes. 1 17-037-0-0, 1 age 2 01 0	
4.1	Description of first aid measures:	If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before reuse. Never give anything by mouth to an unconscious person.	
4.1a	Inhalation:	Due to the small packaging the risk of inhalation is minimal. Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Rinse nose and mouth with water.	
4.1b	Skin contact:	Get medical attention if any discomfort continues. 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	
4.1c	Eye contact:	attention if any discomfort continues. Promptly wash eyes with plenty of water while lifting the eyelids. Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.	
4.1d	Ingestion: NEVER MAKE AN UNCONSCIOUS PERSON VOMIT FLUIDS! Rinse mouth thoroughly. Do not induce vomit advice from poison control center or medical professio attention if any discomfort continues.		
4.2	Most important symptoms and effects, both acute and delayed:		
4.2a	Inhalation:	None known.	
4.2b	Skin contact:	None known.	
4.2c 4.2d	Eye contact: Ingestion:	None known. None known.	
4.2a 4.3	Indication: 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 protective equipment.	
	n 5: Firefighting measures		
5.1	Extinguishing media:	Use fire-extinguishing media appropriate for the surrounding materials.	
5.1a 5.1b	Suitable extinguishing media: Unsuitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide. None known.	
5.10	Special hazards arising from the substance or mixture:	Product is not explosive. No 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), 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 5.3	Protective measures in fire: Advice for firefighters:	Use protective equipment appropriate for surrounding materials. Keep away from heat, hot surfaces, sparks, open flames and other 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.	
Sectio	n 6: Accidental release measures		
6.1	Personal precautions, protective equipment, and	Use protective equipment appropriate for surrounding materials.	
6.1a			
	emergency procedures: General release measures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8).	
6.1b		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	
6.1b	Advice for non-emergency personnel; personal precautions, protective equipment and emergency	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	

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6.3	Methods and materials for containment and	ctive: 10/02/2018; Supersedes: F17-637-3-D; Page 3 of 6 Contain any spills with dikes or absorbent materials to prevent
0.3	clean up:	migration and entry into sewers or water sources. Place in a suitable
	oldan up.	container for disposal in accordance with local waste regulations (see
		Section 13). Wash spill area thoroughly with plenty of soap and water.
		Avoid contact with skin or inhalation of spillage, dust, or vapor.
6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.
	n 7: Handling and storage	Do not havelle until all sofety presentions have been read and
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.
7.45	mixtures:	De not not divide an analysis words are a Mark hards often
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
İ		entering eating areas. Good personal hygiene is necessary. Follow
		good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any	Refer to product label. Store in cool place. Keep container tightly
	incompatibilities:	closed in a dry and well-ventilated place. Containers which are opened
		must be carefully resealed and kept upright to prevent leakage. Avoid
		spills and release into the environment; keep away from watercourses.
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
Section	n 8: Exposure controls/personal protection	
8.1	Control parameters:	
8.1a	Occupational exposure limits, such as chemical	Not available.
	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.	
8.1b	Appropriate engineering controls:	
8.1c	Individual protection measures, such as personal	Wear gloves, protective goggles, and lab coat.
	protective equipment:	grand grands, protestino graggino, anta tala comi
8.1d	Safety symbols:	
8.2	Exposure controls:	
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the
	A class	workstation location.
8.2c	Ventilation controls:	Provide adequate ventilation.
8.2d 8.2e	Reference to other sections: Eye/face protection:	Refer to Section 5 for additional information. Wear approved chemical safety goggles where eye exposure is
0.28	Lys/1ace protection.	reasonably probable or face shield if risk of splashing.
8.2f	Skin protection:	Wear apron or protective clothing in case of contact.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2h	Respiratory equipment:	Where risk assessment shows air-purifying respirators are appropriate
		use a full-face respirator with multi-purpose combination (US) or type
		ABEK (EN 14387) respirator cartridges as a backup to engineering
		controls. If the respirator is the sole means of protection, use a full-face
		supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH
		(US) or CEN (EU).
8.2i	Other protection:	Wear appropriate clothing to avoid skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift
		and before eating, smoking, and using the toilet. Promptly remove any
		clothing that becomes contaminated. Use appropriate skin cream to
		prevent drying of skin. When using do not eat, drink, or smoke. Wash
0.01	Thermal hererde	promptly with soap and water if skin becomes contaminated
8.2k 8.2l	Thermal hazards: Environmental exposure controls:	None known under normal conditions of use. Not determined.
0.21	Environmental exposure controls.	HOU GELEHHINEG.
Sectio	n 9: Physical and chemical properties	
9.1	Information on basic physical and chemical	
	properties:	

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9.1a	Appearance (physical state, color, etc.):	Powder, dust.
		/
9.1b	Odor:	No characteristic odor.
9.1c	Odor threshold:	Not determined.
9.1d	pH:	Not determined.
9.1e	Melting point/freezing point (°C):	Not determined.
9.1f	Initial boiling point and boiling range:	Not determined.
9.1g	Flash point (°C):	Not applicable.
9.1h	Evaporation rate:	
		Not applicable
9.1i	Flammability (solid, gas):	Not determined.
9.1j	Upper/lower flammability or explosive limits:	Not determined.
9.1k	Vapor pressure:	Not applicable.
9.11	Vapor density (Air =1):	Not applicable.
9.1m	Relative density:	Not determined.
9.1n	Solubility(ies):	Insoluble in water; soluble in organic solvents.
9.10	Partition coefficient (N-octanol/water):	Not determined.
9.1p	Auto-ignition temperature (°C):	Not determined.
9.1q	Decomposition temperature (°C):	Not determined.
9.1r	Viscosity:	Not determined.
9.1s	Explosive properties:	Not determined.
9.1t	Oxidizing properties:	Not determined.
9.2	Other information:	None.
9.2a		None.
9.Za	Other physical or chemical parameters:	None.
	10: Stability and reactivity	
10.1	Reactivity:	No data available.
10.2	Chemical stability:	Stable under normal temperature conditions.
10.3	Possibility of hazardous reactions:	Hazardous polymerization: no data available.
10.4	Conditions to avoid:	To avoid product degradation, avoid exposure to high temperatures or
		direct sunlight or light.
10.5	Incompatible materials:	No data available.
10.6	Hazardous decomposition products:	None under normal conditions.
	n 11: Toxicological information	
11.1	Information on toxicological effects:	
11.1a	Name:	FAM-FLIVO
11.1b	Acute toxicity:	Not determined.
11.1c	Skin corrosion/irritation:	Not determined.
11.1d	Serious eye damage/irritation:	Not determined.
11.1e	Respiratory or skin sensitization:	Not determined.
11.1f	Germ cell mutagenicity:	Not determined.
11.1g	Carcinogenicity:	Not determined.
11.1h	Reproductive toxicity:	Not determined.
11.1i	STOT-single exposure:	Not determined.
11.1j	STOT-repeated exposure:	Not determined.
		110100000000000000000000000000000000000
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 known.
11.1n	Inhalation:	None known.
11.10	Skin contact:	None known.
11.1p	Eye contact:	None known.
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.
1	effects from short and long term exposure:	
11.1s	effects from short and long term exposure:	Not determined.
11.1s	effects from short and long term exposure: Numerical measures of toxicity (such as acute	Not determined.
	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates):	
11.1t	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects:	Not determined.
11.1t 11.1u	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data:	Not determined. Not applicable.
11.1t 11.1u 11.1v	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures:	Not determined. Not applicable. Not applicable.
11.1t 11.1u 11.1v 11.1w	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information:	Not determined. Not applicable. Not applicable. Not applicable.
11.1t 11.1u 11.1v	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP):	Not determined. Not applicable. Not applicable. Not applicable. Not applicable. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP):	Not determined. Not applicable. Not applicable. Not applicable.
11.1t 11.1u 11.1v 11.1w	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research	Not determined. Not applicable. Not applicable. Not applicable. Not applicable. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC):	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13:	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC):	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y 11.1z 11.1ab	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified. Not classified.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y 11.1z 11.1ab	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified. Not classified. Not classified. None.
11.1t 11.1u 11.1v 11.1w 11.1x 11.1y 11.1z 11.1ab	effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Not determined. Not applicable. Not applicable. Not applicable. Not classified. Not classified. Not classified.

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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 12.4	Bioaccumulative potential: Mobility in soil:	No data available on bioaccumulation. No data available.			
12.4	Results of PBT and vPvB assessment:	Not determined.			
12.5	Other adverse effects:	No data available.			
		was attained			
Section	13: Disposal considerations				
13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety			
		precautions applying to handling of the product.			
13.1a	Description of waste residues and information on	Dispose of waste and residues in accordance with local authority			
	their safe handling and methods of disposal, including the disposal of any contaminated	requirements. For the safety of persons conducting disposal, recycling or reclamation activities, please refer to the information in Section 8			
	packaging:	(exposure controls and personal protection) of the SDS.			
	packaging.	(expectate controls and personal protection) of the CBC.			
Section	14: Transport information				
14.1	UN number:	Not applicable.			
14.2	UN proper shipping name:	Not applicable.			
14.3	Transport hazard class(es):	Not applicable.			
14.4 14.5	Packing group: Environmental hazards:	Not applicable.			
14.5a	Is it environmentally dangerous according to UN	No.			
. 1.04	Model Regulations (IMDG Code, ADR, RID, and				
	ADN)?:				
14.5b	Is it a marine pollutant according to the IMDG	No.			
	code?:				
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.			
14.7a	Classification for other modes of transport:	Contact supplier.			
		1			
	15: Regulatory information				
15.1	Safety, health and environmental				
	regulations/legislation specific for the substance				
15.15	or mixture:	Nanalysayın			
15.1a	Regional safety, health and environmental regulations specific for the product in question:	None known.			
15.1b	USA SARA Components (such as 302/311/313):	Not listed.			
15.1c	USA Massachusetts Right to Know:	Not listed.			
15.1d	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.			
15.1k	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of			
	g	substances and mixtures (CLP Regulation). EC 830/2015. Regulation			
		(EC) No 1907/2006 of the European Parliament and of the Council of			
		18 December 2006 concerning the Registration, Evaluation,			
		Authorisation and Restriction of Chemicals (REACH), establishing a			
		European Chemicals Agency, amending Directive 1999/45/EC and			
		repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC			
		and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and			
		2000/21/EC, including amendments.			
15.2	Chemical safety assessment:	Not required.			
15.2a	Other regulatory information:	None.			
	16: Other information				
16.1	Other information:	40/00/0040			
16.1a	Date of revision:	10/02/2018			
16.1b 16.1c	SDS number and revision: Supersedes SDS number and revision:	F17-6218-2-A F17-637-3-D			
16.1d	Changes made to the previous version of the SDS:	SDS formatted to comply with EC 1272/2008 CLP regulations, EC			
. 5. 10	The state of the provious version of the ODO.	830/2015.			
16.1e	Key/legend to abbreviations and acronyms used in	ACGIH American Conference of Governmental Industrial Hygienists.			
	the SDS:	ADN European Provisions concerning the International Carriage of			

		EC50 Half maximal effective concentration.
		ATE Acute Toxicity Estimate. BCF Bio Concentration Factor. CAS Chemical Abstracts Service. CLP Classification, Labelling and Packaging.
		CMR Carcinogen, Mutagen or Reproductive toxicant. COD Chemical Oxygen Demand. EC European Commission.
		EC50 Half maximal effective concentration.
		EH40 Resource containing the list of workplace exposure limits for us with the Control of Substances Hazardous to Health Regulations. EINECS European Inventory of Existing Commercial chemical
		Substances. ELINCS European List of Notified Chemical Substances.
		EU European Union. GHS Globally Harmonized System of Classification and Labelling of
		Chemicals. H Statement GHS Hazard statement.
		IATA International Air Transport Association.
		IBC Intermediate Bulk Container.
		IC50 Half maximal inhibitory concentration. IMDG International Maritime Dangerous Goods.
		LC50 Median lethal concentration. LD50 Median lethal dose.
		LogPow logarithm of the octanol/water partition coefficient. MARPOL 73/78 International Convention for the Prevention of
		Pollution From Ships, 1973 as modified by the Protocol of 1978. OEL Occupational Exposure Limit.
		OSHA Occupational Safety and Health Administration (USA). PBT Persistent, Bioaccumulative, and Toxic.
		PEL Permissible Exposure Limit.
		RID The Regulations concerning the International Carriage of Dangerous Goods by Rail.
		SADT Self-Accelerating Decomposition Temperature. SARA Superfund Amendments and Reauthorization Act.
		SCBA Self-Contained Breathing Apparatus.
		SDS Safety Data Sheet. STOT Specific Target Organ Toxicity.
		STOT-RE Specific Target Organ Toxicity - Repeated Exposure.
		STOT-SE Specific Target Organ Toxicity - Single Exposure. UN United Nations.
		USA United States of America.
6.1f	Full text of hazard statements and/or precautionary	vPvB very Persistent very bioaccumulative. All statements were written out in full.
o. 11	statements not written out in full elsewhere:	All statements were written out in full.

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

END OF SDS



SAFETY DATA SHEET (SDS)

according to Regulation (EC) No. 830/2015 amending 1907/2006

1.1	on 1: Identification of the substance/mixture and of the Product identifier:				
		10X Injection Buffer			
I.1a	Other means of identification:				
.1b	Alternative product name(s)/ synonyms:	10X IB, Injection Buffer			
1.1c	Product number/Catalog #(s):	6220			
l.1d	Internal identification:	Injection Buffer			
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	A buffered diluent for use in FLIVO® kits.			
	intended to do:				
.3	Details of the supplier of the SDS:				
.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			
.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;			
	Emergency telephone number.	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.			
		Odridda. 1 000 424 0000 01 11 100 021 0001. Odricot cano docepted.			
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 {CLP}:	Does not meet the criteria for classification.			
2.1c	The most important adverse physiochemical, human	Refer to Sections 9-12.			
	health, and environmental effects:				
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.			
2.2 <u>y</u> 2.2h	Supplementary precaution statements:	None.			
2.211 2.3	Other hazards:	No additional information available.			
2.3a	Does the chemical meet the criteria for PBT or vPvB? Other hazards which do not result in classification:	Not applicable.			
2.3b	Other nazards which do not result in classification.	None.			
Section	on 3: Composition/information on ingredients				
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.			
	3.2b Common name, synonyms, etc.:	130 mg. calonio laorianoa for reporting in tino occitori.			
	3.2c CAS number and	3.2e % 3.2f Classification according to (EC) No.			
	other unique identifiers: 3.2d EC number:	S.21 Classification according to (EC) No. 1272/2008 {CLP}:			
	other unique identifiers. S.20 EC Humber.	<u> 1212/2000 {GLF}.</u>			
		· · · · · · · · · · · · · · · · · · ·			
	on 4: First aid measures				
Sectio I.1	Description of first aid measures:	If concerned, get medical attention/advice and provide physician with			
		If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before reuse. Never give anything to an unconscious person.			

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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
4.1b	Skin contact:	mouth with water. Get medical attention if any discomfort continues. 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.
4.1c	Eye contact:	Promptly wash eyes with plenty of water while lifting the eyelids. Make sure to remove any contact lenses from the eyes before rinsing.
		Continue to rinse for at least 15 minutes. 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
4.2	Most important symptoms and effects, both acute	attention if any discomfort continues.
	and delayed:	None known
4.2a	Inhalation:	None known.
4.2b 4.2c	Skin contact:	None known. None known.
4.2d	Eye contact: Ingestion:	None known.
4.3	Indication of any immediate medical attention and special treatment needed:	No specific first aid measures noted, but first aid may still be required in case of accidental exposure, inhalation, or ingestion of this product.
4.3a	Notes to physician/first responder:	If in doubt, get medical attention promptly! Treat symptomatically. Refer to Sections 5-8 for advice on personal
		protective equipment.
	n 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.
5.2	Special hazards arising from the substance or mixture:	This product is not flammable. Product is not explosive. No dangerous reactions known under normal conditions of use.
5.2a	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 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 precautions, protective equipment and emergency procedures:	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.
6.1c	Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	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).
6.2 6.3	Environmental precautions: Methods and materials for containment and clean up:	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. Avoid contact with skin or inhalation of spillage, dust, or vapor.

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6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.			
-					
Section 7.1	n 7: Handling and storage Precautions for safe handling:	Do not handle until all potety propositions have been read and			
7.1	Precautions for sale 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. Store in cool place. Keep container tightly closed in a dry and well-			
7.2	Conditions for safe storage, including any incompatibilities:	ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid spills and release into the environment; keep away from watercourses.			
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.			
Section	on 8: Exposure controls/personal protection				
8.1	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.	No data available.			
8.1b	Appropriate engineering controls:				
8.1c	Individual protection measures, such as personal protective equipment:	Wear gloves, protective goggles, and lab coat.			
8.1d	Safety symbols:				
8.2	Exposure controls:				
8.2a	Process conditions:	Provide eyewash station.			
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.			
8.2c	Ventilation controls:	Provide adequate ventilation.			
8.2d 8.2e	Reference to other sections: Eye/face protection:	Refer to Section 5 for additional information. Wear approved chemical safety goggles where eye exposure is			
0.26	Lyenade protection.	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-fact 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 sh 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	on 9: Physical and chemical properties				
9.1	Information on basic physical and chemical properties:				
9.1a	Appearance (physical state, color, etc.):	Liquid; colorless.			
9.1b	Odor:	No characteristic odor.			
<u> </u>	to a superior delicione del colo del co	Not determined.			
9.1c 9.1d	Odor threshold: pH:	6.6-7.0			

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9.1f 9.1g		40000 0 700	
0.10	Initial boiling point and boiling range:	<100°C @ 760 mm Hg.	
J 3.19	Flash point (°C):	Not applicable.	
9.1h	Evaporation rate:	Not determined.	
9.1i	Flammability (solid, gas):	Not applicable. Not applicable.	
	Upper/lower flammability or explosive limits:		
9.1j			
9.1k	Vapor pressure:	Not determined.	
9.11	Vapor density (Air =1):	Not determined.	
9.1m	Relative density:	Not determined.	
9.1n	Solubility(ies):	Soluble in water.	
9.10	Partition coefficient (N-octanol/water):	Not determined.	
9.1p	Auto-ignition temperature (°C):	Not determined.	
9.1q	Decomposition temperature (°C):	Not determined.	
9.1r	Viscosity:	Not determined.	
9.1s	Explosive properties:	Not determined.	
9.1t	Oxidizing properties:	Not determined.	
9.2	Other information:	None.	
9.2a	Other physical or chemical parameters:	None.	
J.24	Other physical of offerfical parameters.	None.	
01:	40.0(= : (
	10: Stability and reactivity		
10.1	Reactivity:	No data available.	
10.2	Chemical stability:	Stable under normal temperature conditions.	
10.3	Possibility of hazardous reactions:	Hazardous polymerization: will not polymerize.	
10.4	Conditions to avoid:	To avoid product degradation, avoid exposure to high temperatures or	
10.4	Conditions to avoid.		
		direct sunlight or light.	
10.5	Incompatible materials:	No data available.	
10.6	Hazardous decomposition products:	None under normal conditions.	
	<u> </u>		
Section	n 11: Toxicological information		
11.1	Information on toxicological effects:		
11.1a	Name:	10X Injection Buffer	
11.1b	Acute toxicity:	Not determined.	
11.1c	Skin corrosion/irritation:	Not determined.	
11.1d	Serious eye damage/irritation:	Not determined.	
11.1e	Respiratory or skin sensitization:	Not determined.	
11.1f	Germ cell mutagenicity:	Not determined.	
11.1g	Carcinogenicity:	Not determined.	
11.1h	Reproductive toxicity:	Not determined.	
	STOT-single exposure:	Not determined.	
11111	OTOT Single exposure.	Not determined.	
11.1i	CTOT reported averageurs.	Not data was in a d	
11.1j	STOT-repeated exposure:	Not determined.	
11.1j 11.1k	Aspiration hazard:	Not determined. Not determined.	
11.1j	Aspiration hazard:		
11.1j 11.1k	Aspiration hazard: Information on the likely routes of exposure		
11.1j 11.1k 11.1l	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	Not determined.	
11.1j 11.1k 11.1l	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion:	Not determined. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation:	Not determined. None known. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact:	Not determined. None known. None known. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation:	Not determined. None known. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact:	Not determined. None known. None known. None known. None known. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and	Not determined. None known. None known. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics:	Not determined. None known. None known. None known. None known. None known. No specific symptoms noted.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic	Not determined. None known. None known. None known. None known. None known.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure:	None known. None known. None known. None known. None known. No specific symptoms noted. Not determined.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic	Not determined. None known. None known. None known. None known. None known. No specific symptoms noted.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure:	None known. None known. None known. None known. None known. No specific symptoms noted. Not determined.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates):	None known. None known. None known. None known. None known. No specific symptoms noted. Not determined.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects:	None known. None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data:	None known. None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not determined. Not applicable.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures:	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not determined. Not applicable. Item is a mixture.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information:	None known. None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not determined. Not applicable.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information:	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not determined. Not applicable. Item is a mixture.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP):	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1n 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC):	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x 11.1y	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13:	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1n 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC):	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x 11.1y	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13:	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x 11.1s 11.1l 11.1ab	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x 11.1s 11.1s Section	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified.	
11.1j 11.1k 11.1n 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1w 11.1x 11.1s 11.1s Section 12.1	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Note determined. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. Not classified. None.	
11.1j 11.1k 11.1n 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1x 11.1y 11.1s 11.1z 11.1ab Section 12.1 12.1a	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Not determined. None known. None known. None known. Nospecific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. None.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1x 11.1y 11.1z 11.1ab Section 12.1 12.1a 12.1b	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information: 12: Ecological information Toxicity: Name: Ecotoxicity (aquatic and terrestrial, where available):	Not determined. None known. None known. None known. Nospecific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. None.	
11.1j 11.1k 11.1n 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1x 11.1y 11.1s 11.1d	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information:	Not determined. None known. None known. None known. Nospecific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. None.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1v 11.1x 11.1s 11.1ab Section 12.1 12.1a 12.1b 12.2	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information: 12: Ecological information Toxicity: Name: Ecotoxicity (aquatic and terrestrial, where available): Persistence and degradability:	Not determined. None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. Not classified. None. 10X Injection Buffer. No data available. There are no data on the degradability of this product.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1v 11.1x 11.1s 11.1z 11.1ab Section 12.1 12.1a 12.1b 12.2 12.3	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information: 12: Ecological information Toxicity: Name: Ecotoxicity (aquatic and terrestrial, where available): Persistence and degradability: Bioaccumulative potential:	Not determined. None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. Not classified. None. 10X Injection Buffer. No data available. There are no data on the degradability of this product. No data available on bioaccumulation.	
11.1j 11.1k 11.1l 11.1m 11.1n 11.1o 11.1p 11.1q 11.1r 11.1s 11.1t 11.1u 11.1v 11.1v 11.1x 11.1s 11.1ab Section 12.1 12.1a 12.1b 12.2	Aspiration hazard: Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): Ingestion: Inhalation: Skin contact: Eye contact: Symptoms related to the physical, chemical and toxicological characteristics: Delayed and immediate effects as well as chronic effects from short and long term exposure: Numerical measures of toxicity (such as acute toxicity estimates): Interactive effects: Absence of specific data: Mixtures: Mixture vs. substance information: Classification by National Toxicity Program (NTP): Classification by International Agency for Research on Cancer (IARC): Classification by OSHA 13: Other information: 12: Ecological information Toxicity: Name: Ecotoxicity (aquatic and terrestrial, where available): Persistence and degradability:	Not determined. None known. None known. None known. None known. No specific symptoms noted. Not determined. Not determined. Not applicable. Item is a mixture. See Section 3 for any substances in the mixture. Not classified. Not classified. Not classified. None. 10X Injection Buffer. No data available. There are no data on the degradability of this product.	

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12.6	Other adverse effects:	Not determined.
12.0	Other adverse effects.	Not determined.
Section	n 13: Disposal considerations	
13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety precautions applying to handling of the product.
13.1a	Description of waste residues and information on	Dispose of waste and residues in accordance with local authority
10.14	their safe handling and methods of disposal,	requirements. For the safety of persons conducting disposal, recycling
	including the disposal of any contaminated	or reclamation activities, please refer to the information in Section 8
	packaging:	(exposure controls and personal protection) of the SDS.
	- Francisco	
	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	No.
	code?:	
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.
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	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	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.
15.1k 15.1l	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of
13.11	LO legislation references.	substances and mixtures (CLP Regulation). EC 830/2015. Regulation
		(EC) No 1907/2006 of the European Parliament and of the Council of
		18 December 2006 concerning the Registration, Evaluation,
		Authorisation and Restriction of Chemicals (REACH), establishing a
		European Chemicals Agency, amending Directive 1999/45/EC and
		repealing Council Regulation (EEC) No 793/93 and Commission
		Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC
		and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and
		2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2a	Other regulatory information:	Mixture is not hazardous for Health Canada WHMIS2015.
	16: Other information	
16.1	Other information:	
16.1a	Date of revision:	10/26/2018
16.1b	SDS number and revision:	F17-6220-2-B
16.1c	Supersedes SDS number and revision:	F17-6220-2-A SDS formatted to comply with EC 1272/2009 CLD regulations. EC
16.1d	Changes made to the previous version of the SDS:	SDS formatted to comply with EC 1272/2008 CLP regulations, EC 830/2015.
16.1e	Key/legend to abbreviations and acronyms used in	ACGIH American Conference of Governmental Industrial Hygienists.
10.16	the SDS:	ADN European Provisions concerning the International Carriage of
	the obo.	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.
	1	DOI DIO CONCONTRACION I ACION.

JISCLA	in combinat	on relates only to the specific material designated and may not be valid for such materi n with any other materials or in any process. Such information is, to the best of the com d belief, accurate and reliable as of the date indicated. However, no warranty guarantee	npany's
	statements not writter	ut in full elsewhere:	
16.1f	Full text of bazard sta	vPvB very Persistent very bioaccumulative. ments and/or precautionary All statements were written out in full.	
		USA United States of America.	
		UN United Nations.	
		STOT-SE Specific Target Organ Toxicity - Single Exposure.	
		STOT-RE Specific Target Organ Toxicity - Repeated Exposure	э.
		STOT Specific Target Organ Toxicity.	
		SCBA Self-Contained Breathing Apparatus. SDS Safety Data Sheet.	
		SARA Superfund Amendments and Reauthorization Act.	
		SADT Self-Accelerating Decomposition Temperature.	
		Dangerous Goods by Rail.	
		RID The Regulations concerning the International Carriage of	
		PEL Permissible Exposure Limit.	
		PBT Persistent, Bioaccumulative, and Toxic.	
		OSHA Occupational Safety and Health Administration (USA).	
		Pollution From Ships, 1973 as modified by the Protocol of 1973 OEL Occupational Exposure Limit.	٥.
		MARPOL 73/78 International Convention for the Prevention of	
		LogPow logarithm of the octanol/water partition coefficient.	
		LD50 Median lethal dose.	
		LC50 Median lethal concentration.	
		IMDG International Maritime Dangerous Goods.	
		IC50 Half maximal inhibitory concentration.	
		IBC Intermediate Bulk Container.	
		H Statement GHS Hazard statement. IATA International Air Transport Association.	
		Chemicals.	
		GHS Globally Harmonized System of Classification and Labell	ing of
		EU European Union.	
		ELINCS European List of Notified Chemical Substances.	
		Substances.	
		EINECS European Inventory of Existing Commercial chemical	
		with the Control of Substances Hazardous to Health Regulatio	
		EC50 Half maximal effective concentration. EH40 Resource containing the list of workplace exposure limit	e for ue
		EC European Commission.	
		COD Chemical Oxygen Demand.	
		CMR Carcinogen, Mutagen or Reproductive toxicant.	
		CLP Classification, Labelling and Packaging.	
		CAS Chemical Abstracts Service.	

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

END OF SDS