ImmunoChemistry TECHNOLOGIES LLC

# SAFETY DATA SHEET (SDS)

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

## Section 1: Identification of the substance/mixture and of the company/undertaking

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| **1.1** | **Product identifier:** | | NIR-FLIVO® 690 Free Dye |
| 1.1a | Other means of identification: | | . |
| 1.1b | | Alternative product name(s)/ synonyms: | NIR-FLIVO Free Dye Control Reagent, NIR-FLIVO Free Dye Control, Free Dye Control, NIR-FLIVO *DyLight® 690 Free Dye, *DyLight® 690-carboxylic acid, *DyLight® 690 Free Dye<br><br>*DyLight® is a trademark of Thermo Fisher Scientific, Inc. and its subsidiaries. |
| 1.1c | | Product number/Catalog #(s): | 3338, 5153, 6307 |
| 1.1d | | Internal identification: | NIR-FLIVO 690 Free Dye |
| **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: | | *In vivo* free dye reagent for use as a control in NIR-FLIVO apoptosis detection studies. |
| **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. |

## Section 2: Hazards identification

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| **2.1** | **Classification of the substance or mixture:** | | . |
| 2.1a | Product is a: | | Substance. |
| 2.1b | Classification according to (EC) No. 1272/2008 {CLP}: | | Eye Dam. 1, H318. |
| 2.1c | The most important adverse physiochemical, human health, and environmental effects: | | Refer to Sections 9-12. |
| **2.2** | **Label elements:** | | . |
| 2.2a | GHS label elements, including precautionary statements: | | . |
| 2.2b | | Contains: | DyLight® Reactive Dye |
| 2.2c | Labeling in accordance with (EC) No. 1272/2008: | | . |
| 2.2d | Hazard Pictograms (Hazard Symbols): | | GHS05 Corrosion.<br>  |
| 2.2e | Signal word: | | Danger. |
| 2.2f | Hazard statements: | | H318 Causes serious eye damage. |
| 2.2g | Precautionary statements: | | None. |
| 2.2h | Supplementary precaution statements: | | None. |
| **2.3** | **Other hazards:** | | No additional information available. |
| 2.3a | Does the chemical meet the criteria for PBT or vPvB? | | Not applicable. |
| 2.3b | Other hazards which do not result in classification: | | No information available. |

## Section 3: Composition/information on ingredients

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| **3.1** | **Substance:** | | Item is a substance. | |
| | 3.1a Chemical identity: | | NIR-FLIVO 690 Free Dye | |
| | 3.1b Common name, synonyms, etc.: | | None. | |
| | 3.1c CAS number and other unique identifiers: | 3.1d EC number: | 3.1e % Concentration: | 3.1f Classification according to (EC) No. 1272/2008 {CLP}: |

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| | None. | Not applicable. | 100% | Not classified. |
| | | | | |
| 3.1g | Chemical identity of any impurity, stabilizing additive, or individual constituent other than the main constituent, which is itself classified and which contributes to the classification (such as product identifier, trade name, identification numbers): | | None known. | |
| 3.1h | Other information on the substance: | | | |
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| **3.2** | **Mixture:**<br>The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: | | Item is a substance, therefore Section 3.2 is not applicable; see Section 3.1. | |

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| **Section 4: First aid measures** | | |
| **4.1** | **Description of first aid measures:** | . |
| 4.1a | Inhalation: | Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. |
| 4.1b | Skin contact: | Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| 4.1c | Eye contact: | Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. |
| 4.1d | Ingestion: | Get medical attention immediately. Call poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. |
| **4.2** | **Most important symptoms and effects, both acute and delayed:** | . |
| 4.2a | Inhalation: | Potential acute health effects: may give off gas, vapor, or dust that is very irritating or corrosive to the respiratory system.<br>Over-exposure signs/symptoms: no specific data. |
| 4.2b | Skin contact: | Potential acute health effects: no known significant effects or critical hazards.<br>Over-exposure signs/symptoms: adverse symptoms may include the following: pain or irritation, redness, blistering may occur. |
| 4.2c | Eye contact: | Potential acute health effects: Causes serious eye damage.<br>Over-exposure signs/symptoms: Adverse symptoms may include the following: pain, watering, redness. |
| 4.2d | Ingestion: | Potential acute health effects: may cause burns to mouth, throat and stomach.<br>Over-exposure signs/symptoms: adverse symptoms may include the following: stomach pains. |
| **4.3** | **Indication of any immediate medical attention and special treatment needed:** | No additional information available. |
| 4.3a | Notes to physician/first responder: | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.<br>No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer |

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| | | should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |
| **Section 5: Firefighting measures** | | |
| **5.1** | **Extinguishing media:** | Use fire-extinguishing media appropriate for the surrounding materials. |
| 5.1a | Suitable extinguishing media: | Water spray, foam, dry powder, or carbon dioxide. |
| 5.1b | Unsuitable extinguishing media: | None known. |
| **5.2** | **Special hazards arising from the substance or mixture:** | Product is not explosive. No dangerous reactions known under normal conditions of use. |
| 5.2a | Hazardous combustion products: | No specific data. |
| 5.2b | Unusual fire & explosion hazards: | No specific fire or explosion hazard. |
| 5.2c | Protective measures in fire: | . |
| **5.3** | **Advice for firefighters:** | . |
| 5.3a | Special firefighting procedures: | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| 5.3b | Special protective equipment and precautions for firefighters: | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. May be combustible at high temperature. |
| **Section 6: Accidental release measures** | | |
| **6.1** | **Personal precautions, protective equipment, and emergency procedures:** | . |
| 6.1a | General release measures: | No specific data. |
| 6.1b | Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| 6.1c | Advice for emergency responders; personal precautions, protective equipment and emergency procedures: | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| **6.2** | **Environmental precautions:** | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| **6.3** | **Methods and materials for containment and clean up:** | Small spill: Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated waste container. Dispose of via a licensed waste disposal contractor.<br>Large spill: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. |
| **6.4** | **Reference to other sections:** | Refer to Sections 1, 8 and 13 for additional information. |
| **Section 7: Handling and storage** | | |
| **7.1** | **Precautions for safe handling:** | Put on appropriate personal protective equipment (Section 8). Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers contain residual product residue and can be hazardous. Do not reuse container. |
| 7.1a | Prevent handling of incompatible substances or mixtures: | Not known. |
| 7.1b | Advice on general occupational hygiene: | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| **7.2** | **Conditions for safe storage, including any incompatibilities:** | Do not store above the following temperature: -20°C. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from |

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| | | incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. |
| **7.3** | **Specific end use(s):** | For research use only. Not for use in diagnostic procedures. |
| **Section 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. | None. |
| 8.1b | Appropriate engineering controls: | Ensure adequate ventilation, especially in confined areas. |
| 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: | If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory levels. |
| 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: | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. |
| 8.2f | Skin protection: | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| 8.2g | Hand protection: | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for a glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| 8.2h | Respiratory equipment: | Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |
| 8.2i | Other protection: | Appropriate footware and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| 8.2j | Hygiene measures: | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using lavatory and at the end of a working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| 8.2k | Thermal hazards: | None known under normal conditions of use. |
| 8.2l | Environmental exposure controls: | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

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| **Section 9: Physical and chemical properties** | | |
| **9.1** | **Information on basic physical and chemical properties:** | . |
| 9.1a | Appearance (physical state, color, etc.): | Lyophilized powder. |
| 9.1b | Odor: | No characteristic odor. |
| 9.1c | Odor threshold: | Not determined. |
| 9.1d | pH: | Not available. |
| 9.1e | Melting point/freezing point (˚C): | Not available. |
| 9.1f | Initial boiling point and boiling range: | Not available. |
| 9.1g | Flash point (˚C): | Not available. |
| 9.1h | Evaporation rate: | Not available. |
| 9.1i | Flammability (solid, gas): | May be combustable at high temperature. |
| 9.1j | Upper/lower flammability or explosive limits: | Not available. |
| 9.1k | Vapor pressure: | Not available. |
| 9.1l | Vapor density (Air =1): | Not available. |
| 9.1m | Relative density: | Not available. |
| 9.1n | Solubility(ies): | Soluble in water. |
| 9.1o | Partition coefficient (N-octanol/water): | Not available. |
| 9.1p | Auto-ignition temperature (˚C): | Not available. |
| 9.1q | Decomposition temperature (˚C): | Not available. |
| 9.1r | Viscosity: | Not available. |
| 9.1s | Explosive properties: | Not available. |
| 9.1t | Oxidizing properties: | Not available. |
| **9.2** | **Other information:** | Not available. |
| 9.2a | Other physical or chemical parameters: | None. |
| **Section 10: Stability and reactivity** | | |
| **10.1** | **Reactivity:** | No specific test data related to reactivity available for this product or its ingredients. |
| **10.2** | **Chemical stability:** | The product is stable under normal conditions of storage and use. |
| **10.3** | **Possibility of hazardous reactions:** | Hazardous reaction will not occur under normal conditions of storage and use. |
| **10.4** | **Conditions to avoid:** | No specific data. |
| **10.5** | **Incompatible materials:** | No specific data. |
| **10.6** | **Hazardous decomposition products:** | Hazardous decomposition products should not be produced under normal conditions of storage and use. |
| **Section 11: Toxicological information** | | |
| **11.1** | **Information on toxicological effects:** | To the best of our knowledge, the toxicological properties of this substance have not been thoroughly investigated. |
| 11.1a | Name: | NIR-FLIVO 690 Free Dye |
| 11.1b | Acute toxicity: | Not available. |
| 11.1c | Skin corrosion/irritation: | Not available. |
| 11.1d | Serious eye damage/irritation: | Not available. |
| 11.1e | Respiratory or skin sensitization: | Not available. |
| 11.1f | Germ cell mutagenicity: | Not available. |
| 11.1g | Carcinogenicity: | Not available. |
| 11.1h | Reproductive toxicity: | Not available. |
| 11.1i | STOT-single exposure: | Not available. |
| 11.1j | STOT-repeated exposure: | Not available. |
| 11.1k | Aspiration hazard: | Not available. |
| 11.1l | Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): | . |
| 11.1m | Ingestion: | May cause burns to mouth, throat and stomach. |
| 11.1n | Inhalation: | May give off gas, vapor, or dust that is very irritating or corrosive to the respiratory system. |
| 11.1o | Skin contact: | No known significant effects or critical hazards. |
| 11.1p | Eye contact: | Causes serious eye damage. |
| 11.1q | Symptoms related to the physical, chemical and toxicological characteristics: | Eye contact: Adverse symptoms may include the following: pain, watering, redness.<br>Inhalation: No specific data.<br>Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur.<br>Ingestion: Adverse symptoms may include the following: stomach pains. |
| 11.1r | Delayed and immediate effects as well as chronic effects from short and long term exposure: | Not available. |
| 11.1s | Numerical measures of toxicity (such as acute toxicity estimates): | Not available. |

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| 11.1t | Interactive effects: | Not available. |
| 11.1u | Absence of specific data: | Not available. |
| 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 on Cancer (IARC): | Not classified. |
| 11.1z | Classification by OSHA 13: | Not classified. |
| 11.1ab | Other information: | None. |

**Section 12: Ecological information**

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| **12.1** | **Toxicity:** | . |
| 12.1a | Name: | NIR-FLIVO 690 Free Dye |
| 12.1b | Ecotoxicity (aquatic and terrestrial, where available): | Not available. |
| **12.2** | **Persistence and degradability:** | Not available. |
| **12.3** | **Bioaccumulative potential:** | Not available. |
| **12.4** | **Mobility in soil:** | Not available. |
| **12.5** | **Results of PBT and vPvB assessment:** | Not available. |
| **12.6** | **Other adverse effects:** | No known significant effects or critical hazards. |

**Section 13: Disposal considerations**

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| **13.1** | **Waste treatment methods:** | The generation of waste should be avoided or minimized wherever possible. 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: | Disposal of this product, solution and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |

**Section 14: Transport information**

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| **14.1** | **UN number:** | Not regulated. |
| **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:** | Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage. |
| **14.7** | **Transport in bulk according to Annex II of MARPOL and the IBC code:** | Not available. |
| 14.7a | Other information: | None. |
| 14.7b | Classification for other modes of transport: | Contact supplier. |

**Section 15: Regulatory information**

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| **15.1** | **Safety, health and environmental regulations/legislation specific for the substance or mixture:** | . |
| 15.1a | Regional safety, health and environmental regulations specific for the product in question: | None known. |
| 15.1b | USA SARA Components (such as 302/311/313): | Not listed. |
| 15.1c | USA Massachusetts Right to Know: | Not listed. |
| 15.1d | 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. |

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| 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. |
| 15.1l | 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**

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| **16.1** | **Other information:** | . |
| 16.1a | Date of revision: | 05/30/2019 |
| 16.1b | SDS number and revision: | F17-6307-1-A |
| 16.1c | Supersedes SDS number and revision: | F11-6307-6-B |
| 16.1d | Changes made to the previous version of the SDS: | Updated to comply with EC 1272/2008 CLP regulations, EC 830/2015. |
| 16.1e | Key/legend to abbreviations and acronyms used in the SDS: | ACGIH American Conference of Governmental Industrial Hygienists.<br>ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway.<br>ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road.<br>ATE Acute Toxicity Estimate.<br>BCF Bio Concentration Factor.<br>CAS Chemical Abstracts Service.<br>CLP Classification, Labelling and Packaging.<br>CMR Carcinogen, Mutagen or Reproductive toxicant.<br>COD Chemical Oxygen Demand.<br>EC European Commission.<br>EC50 Half maximal effective concentration.<br>EH40 Resource containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations.<br>EINECS European Inventory of Existing Commercial chemical Substances.<br>ELINCS European List of Notified Chemical Substances.<br>EU European Union.<br>GHS Globally Harmonized System of Classification and Labelling of Chemicals.<br>H Statement GHS Hazard statement.<br>IATA International Air Transport Association.<br>IBC Intermediate Bulk Container.<br>IC50 Half maximal inhibitory concentration.<br>IMDG International Maritime Dangerous Goods.<br>LC50 Median lethal concentration.<br>LD50 Median lethal dose.<br>LogPow logarithm of the octanol/water partition coefficient.<br>MARPOL 73/78 International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.<br>OEL Occupational Exposure Limit.<br>OSHA Occupational Safety and Health Administration (USA).<br>PBT Persistent, Bioaccumulative, and Toxic.<br>PEL Permissible Exposure Limit.<br>RID The Regulations concerning the International Carriage of Dangerous Goods by Rail.<br>SADT Self-Accelerating Decomposition Temperature.<br>SARA Superfund Amendments and Reauthorization Act.<br>SCBA Self-Contained Breathing Apparatus.<br>SDS Safety Data Sheet.<br>STOT Specific Target Organ Toxicity.<br>STOT-RE Specific Target Organ Toxicity - Repeated Exposure.<br>STOT-SE Specific Target Organ Toxicity - Single Exposure.<br>UN United Nations.<br>USA United States of America.<br>vPvB very Persistent very bioaccumulative. |
| 16.1f | Full text of hazard statements and/or precautionary statements not written out in full elsewhere: | All statements were written out in full. |

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| **DISCLAIMER:** | **This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.** |

**END OF SDS**

ImmunoChemistry TECHNOLOGIES LLC

# SAFETY DATA SHEET (SDS)

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

## Section 1: Identification of the substance/mixture and of the company/undertaking

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| **1.1** | **Product identifier:** | | 10X Injection Buffer |
| 1.1a | Other means of identification: | | . |
| 1.1b | | Alternative product name(s)/ synonyms: | 10X IB, Injection Buffer |
| 1.1c | | Product number/Catalog #(s): | 6220 |
| 1.1d | | 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 intended to do: | | A buffered diluent for use in FLIVO® kits. |
| **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. |

## Section 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 health, and environmental effects: | | Refer to Sections 9-12. |
| **2.2** | **Label elements:** | | None. |
| 2.2a | GHS label elements, including precautionary statements: | | . |
| 2.2b | | Contains: | . |
| 2.2c | Labeling in accordance with (EC) No. 1272/2008: | | . |
| 2.2d | Hazard Pictograms (Hazard Symbols): | | None. |
| 2.2e | Signal word: | | None. |
| 2.2f | Hazard statements: | | None. |
| 2.2g | Precautionary statements: | | None. |
| 2.2h | Supplementary precaution statements: | | None. |
| **2.3** | **Other hazards:** | | No additional information available. |
| 2.3a | Does the chemical meet the criteria for PBT or vPvB? | | Not applicable. |
| 2.3b | Other hazards which do not result in classification: | | None. |

## Section 3: Composition/information on ingredients

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| **3.2** | **Mixture:** The chemical identity and concentration or concentration ranges of all ingredients which are hazardous and are present above their cut-off levels: | | Item is a mixture. | |
| | 3.2a Chemical identity: | | No ingredients identified for reporting in this section. | |
| | 3.2b Common name, synonyms, etc.: | | . | |
| | 3.2c CAS number and other unique identifiers: | 3.2d EC number: | 3.2e % Concentration: | 3.2f Classification according to (EC) No. 1272/2008 {CLP}: |
| | . | . | . | . |

## Section 4: First aid measures

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| **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 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 mouth with water. Get medical attention if any discomfort continues. |
| 4.1b | Skin contact: | Wash skin thoroughly with soap and water for several minutes; continue to rinse for at least 15 minutes. Remove any contaminated clothing and shoes and wash thoroughly before reuse. Get medical attention if any discomfort continues. |
| 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 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 | Eye contact: | None known. |
| 4.2d | 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. 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. |
| **Section 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. |
| **Section 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** | **Environmental precautions:** | Do not allow to enter drains, sewers, or watercourses. |
| **6.3** | **Methods and materials for containment and clean up:** | Contain any spills with dikes or absorbent materials to prevent migration and entry into sewers or water sources. Place in a suitable container for disposal in accordance with local waste regulations (see 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: 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. |
| **Section 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 | Reference to other sections: | Refer to Section 5 for additional information. |
| 8.2e | Eye/face protection: | Wear approved chemical safety goggles where eye exposure is reasonably probable or face shield if risk of splashing. |
| 8.2f | Skin protection: | Wear apron or protective clothing in case of contact. |
| 8.2g | Hand protection: | Use suitable protective gloves if risk of skin contact. |
| 8.2h | Respiratory equipment: | Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| 8.2i | Other protection: | Wear appropriate clothing to avoid skin contact. |
| 8.2j | Hygiene measures: | DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated |
| 8.2k | Thermal hazards: | None known under normal conditions of use. |
| 8.2l | Environmental exposure controls: | Not determined. |
| **Section 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. |
| 9.1c | Odor threshold: | Not determined. |
| 9.1d | pH: | 6.6-7.0 |
| 9.1e | Melting point/freezing point (˚C): | Not determined. |

| | | |
|---|---|---|
| 9.1f | Initial boiling point and boiling range: | <100˚C @ 760 mm Hg. |
| 9.1g | Flash point (˚C): | Not applicable. |
| 9.1h | Evaporation rate: | Not determined. |
| 9.1i | Flammability (solid, gas): | Not applicable. |
| 9.1j | Upper/lower flammability or explosive limits: | Not applicable. |
| 9.1k | Vapor pressure: | Not determined. |
| 9.1l | Vapor density (Air =1): | Not determined. |
| 9.1m | Relative density: | Not determined. |
| 9.1n | Solubility(ies): | Soluble in water. |
| 9.1o | 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. |

**Section 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 direct sunlight or light. |
| **10.5** | **Incompatible materials:** | No data available. |
| **10.6** | **Hazardous decomposition products:** | None under normal conditions. |

**Section 11: Toxicological information**

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|---|---|---|
| **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. |
| 11.1i | STOT-single exposure: | Not determined. |
| 11.1j | STOT-repeated exposure: | Not determined. |
| 11.1k | Aspiration hazard: | Not determined. |
| 11.1l | Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): | . |
| 11.1m | Ingestion: | None known. |
| 11.1n | Inhalation: | None known. |
| 11.1o | Skin contact: | None known. |
| 11.1p | Eye contact: | None known. |
| 11.1q | Symptoms related to the physical, chemical and toxicological characteristics: | No specific symptoms noted. |
| 11.1r | Delayed and immediate effects as well as chronic effects from short and long term exposure: | Not determined. |
| 11.1s | Numerical measures of toxicity (such as acute toxicity estimates): | Not determined. |
| 11.1t | Interactive effects: | Not determined. |
| 11.1u | Absence of specific data: | Not applicable. |
| 11.1v | Mixtures: | Item is a mixture. |
| 11.1w | Mixture vs. substance information: | See Section 3 for any substances in the mixture. |
| 11.1x | Classification by National Toxicity Program (NTP): | Not classified. |
| 11.1y | Classification by International Agency for Research on Cancer (IARC): | Not classified. |
| 11.1z | Classification by OSHA 13: | Not classified. |
| 11.1ab | Other information: | None. |

**Section 12: Ecological information**

| | | |
|---|---|---|
| **12.1** | **Toxicity:** | . |
| 12.1a | Name: | 10X Injection Buffer. |
| 12.1b | Ecotoxicity (aquatic and terrestrial, where available): | No data available. |
| **12.2** | **Persistence and degradability:** | There are no data on the degradability of this product. |
| **12.3** | **Bioaccumulative potential:** | No data available on bioaccumulation. |
| **12.4** | **Mobility in soil:** | The product is soluble in water. |
| **12.5** | **Results of PBT and vPvB assessment:** | Not determined. |

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| **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. |
| **Section 14: Transport information** | | |
| **14.1** | **UN number:** | Not applicable. |
| **14.2** | **UN proper shipping name:** | Not applicable. |
| **14.3** | **Transport hazard class(es):** | Not applicable. |
| **14.4** | **Packing group:** | Not applicable. |
| **14.5** | **Environmental hazards:** | . |
| 14.5a | Is it environmentally dangerous according to UN 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. |
| **Section 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. |
| 15.1l | 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: | Mixture is not hazardous for Health Canada WHMIS2015. |
| **Section 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 |
| 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 the SDS: | ACGIH American Conference of Governmental Industrial Hygienists.<br>ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway.<br>ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road.<br>ATE Acute Toxicity Estimate.<br>BCF Bio Concentration Factor. |

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| | | CAS Chemical Abstracts Service.<br>CLP Classification, Labelling and Packaging.<br>CMR Carcinogen, Mutagen or Reproductive toxicant.<br>COD Chemical Oxygen Demand.<br>EC European Commission.<br>EC50 Half maximal effective concentration.<br>EH40 Resource containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations.<br>EINECS European Inventory of Existing Commercial chemical Substances.<br>ELINCS European List of Notified Chemical Substances.<br>EU European Union.<br>GHS Globally Harmonized System of Classification and Labelling of Chemicals.<br>H Statement GHS Hazard statement.<br>IATA International Air Transport Association.<br>IBC Intermediate Bulk Container.<br>IC50 Half maximal inhibitory concentration.<br>IMDG International Maritime Dangerous Goods.<br>LC50 Median lethal concentration.<br>LD50 Median lethal dose.<br>LogPow logarithm of the octanol/water partition coefficient.<br>MARPOL 73/78 International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.<br>OEL Occupational Exposure Limit.<br>OSHA Occupational Safety and Health Administration (USA).<br>PBT Persistent, Bioaccumulative, and Toxic.<br>PEL Permissible Exposure Limit.<br>RID The Regulations concerning the International Carriage of Dangerous Goods by Rail.<br>SADT Self-Accelerating Decomposition Temperature.<br>SARA Superfund Amendments and Reauthorization Act.<br>SCBA Self-Contained Breathing Apparatus.<br>SDS Safety Data Sheet.<br>STOT Specific Target Organ Toxicity.<br>STOT-RE Specific Target Organ Toxicity - Repeated Exposure.<br>STOT-SE Specific Target Organ Toxicity - Single Exposure.<br>UN United Nations.<br>USA United States of America.<br>vPvB very Persistent very bioaccumulative. |
| 16.1f | Full text of hazard statements and/or precautionary statements not written out in full elsewhere: | All statements were written out in full. |
| **DISCLAIMER:** | **This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.** | |

**END OF SDS**