SAFETY DATA SHEETS

Invivoscribe® ABI Assays

This document includes the Safety Data Sheets for reagents included in Invivoscribe ABI Assays, Catalog Numbers listed below.

Catalog Number	Description
11000031	*IGH* + *IGK* B-Cell Clonality Assay for ABI Fluorescence Detection
11000041	*IGH* + *IGK* B-Cell Clonality Assay MegaKit for ABI Fluorescence Detection
11010061	*IGH* Gene Clonality Assay for ABI Fluorescence Detection
11010081	*IGH* Gene Clonality Assay MegaKit for ABI Fluorescence Detection
11010051	*IGH* Gene Rearrangement Assay for ABI Fluorescence Detection
11010071	*IGH* Gene Rearrangement Assay MegaKit for ABI Fluorescence Detection
11020021	*IGK* Gene Clonality Assay for ABI Fluorescence Detection
11020031	*IGK* Gene Clonality Assay MegaKit for ABI Fluorescence Detection
11030011	*IGL* Gene Clonality Assay for ABI Fluorescence Detection
11030021	*IGL* Gene Clonality Assay MegaKit for ABI Fluorescence Detection
13110011	*PML/RARα* t(15;17) Translocation Assay for ABI Fluorescence Detection
12070101	T-cell Receptor Gamma Gene Rearrangement Assay 2.0 for ABI Fluorescence Detection
12070111	T-cell Receptor Gamma Gene Rearrangement Assay 2.0 MegaKit for ABI Fluorescence Detection
12070051	T-cell Receptor Gamma Gene Rearrangement Assay for ABI Fluorescence Detection
12050011	*TCRB* Gene Clonality Assay for ABI Fluorescence Detection
12050021	*TCRB* Gene Clonality Assay MegaKit for ABI Fluorescence Detection
12060011	*TCRD* Gene Clonality Assay for ABI Fluorescence Detection
12060021	*TCRD* Gene Clonality Assay MegaKit for ABI Fluorescence Detection
13100031	*BCR/ABL* t(9;22) Translocation Assay for ABI Fluorescence Detection
14120031	*FLT3* Mutation Assay for ABI Fluorescence Detection
51010031	*IGH* Somatic Hypermutation Assay v2.0 for ABI Fluorescence Detection
51010041	*IGH* Somatic Hypermutation Assay MegaKit v2.0 for ABI Fluorescence Detection

Conforms to HCS 2021 – United States

SAFETY DATA SHEET

Section 1: Identification

GHS product identifier :	Part number :	Other means of identification :
IVS-0004 Clonal Control DNA	40880190	IVS-0004 Clonal Control DNA
IVS-0007 Clonal Control DNA	40880370	IVS-0007 Clonal Control DNA
IVS-0008 Clonal Control DNA	40880430	IVS-0008 Clonal Control DNA
IVS-0009 Clonal Control DNA	40880490	IVS-0009 Clonal Control DNA
IVS-0010 Clonal Control DNA	40880550	IVS-0010 Clonal Control DNA
IVS-0013 Clonal Control DNA	40880730	IVS-0013 Clonal Control DNA
IVS-0017 Clonal Control DNA	40880970	IVS-0017 Clonal Control DNA
IVS-0019 Clonal Control DNA	40881090	IVS-0019 Clonal Control DNA
IVS-0021 Clonal Control DNA	40881210	IVS-0021 Clonal Control DNA
IVS-0024 Clonal Control DNA	40881390	IVS-0024 Clonal Control DNA
IVS-0029 Clonal Control DNA	40881690	IVS-0029 Clonal Control DNA
IVS-0030 Clonal Control DNA	40881750	IVS-0030 Clonal Control DNA
IVS-0031 Clonal Control DNA	40881810	IVS-0031 Clonal Control DNA
5% *TCRG* Positive Control DNA	40883320	5% *TCRG* Positive Control DNA
IVS-0003 Clonal Control RNA	40890190	IVS-0003 Clonal Control RNA
IVS-0011 Clonal Control RNA	40890910	IVS-0011 Clonal Control RNA
IVS-0020 Clonal Control RNA	40891720	IVS-0020 Clonal Control RNA
IVS-0032 Clonal Control RNA	40892800	IVS-0032 Clonal Control RNA
IVS-0035 Clonal Control RNA	40893070	IVS-0035 Clonal Control RNA
IVS-P001 Clonal Control DNA	40900010	IVS-P001 Clonal Control DNA
IVS-P002 Clonal Control DNA	40900070	IVS-P002 Clonal Control DNA
IVS-0000 Polyclonal Control DNA	40920010	IVS-0000 Polyclonal Control DNA

Product type : Liquid

Relevant identified issues of the substance or mixture and uses advised against

Identified uses	For use as qualitative PCR controls.
Restrictions on use :	For professional users only.

Supplier's details :

Invivoscribe, Inc.
10222 Barnes Canyon Road, Building 1
San Diego, CA
92121 USA
Tel: 1 858 224 6000
Toll Free: 1 866 623 8105
Email: customerservice@invivoscribe.com
Website: invivoscribe.com

Emergency telephone (with hours of operation) :

1 866 623 8105
8 AM – 5 PM PST

Section 2. Hazards Identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910:1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

- Signal word : No signal word.
- Hazard statements : No known significant effects or critical hazards.
- Precautionary statements
  - Prevention : Not applicable.
  - Response : Not applicable.
  - Storage : Not applicable.
  - Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Compositions/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
- Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

- Potential acute health effects
  - Eye contact : No known significant effects or critical hazards.
  - Inhalation : No known significant effects or critical hazards.
  - Skin contact : No known significant effects or critical hazards.
  - Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact : No known significant effects or critical hazards.
- Inhalation : No known significant effects or critical hazards.
- Skin contact : No known significant effects or critical hazards.
- Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments : No specific treatment.
- Protection of first aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : 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 personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel : 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. Put on appropriate personal protective equipment.
- For emergency responders : 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".
- 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).

Methods and materials for containment and cleaning up

- Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water soluble. Alternatively, or if water soluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures : Put on appropriate personal protective equipment (see Section 8)..
- 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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure to controls/personal protection

Control parameters

Occupational exposure limits

None.

Section 8. Exposure to controls/personal protection

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the 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.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicated this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. In contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with and approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body 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.

Other skin protection : Appropriate footwear 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.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid. [Clear.]
Color	:	Colorless.
Odor	:	Slight.
Odor threshold	:	Not available.
pH	:	Not available.
Melting/freezing point	:	Not available.
Initial boiling point and boiling range	:	Not available.
Flash point	:	Does not flash.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
Solubility in water	:	Not available.
Partition coefficient: n-octanol/water	:	Not applicable.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Not available.
Flow time (ISO 2431)	:	Not available.

Section 10. Stability and reactivity

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific Target organ toxicity (single exposure)

There is no data available.

Specific Target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Routes on entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solution and any by-products should 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. 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

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental Hazards	No.	No.	No.

AERG : Not applicable

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.

Transportation in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined.
Clean Water Act (CWA) 311: Edetic Acid; Hydochloric Acid.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrochloric acid	≤0.001	Yes.	500	-	5000	-

SARA 304 RQ : 634763213.6 lbs / 288182499 kg

SARA 311/312

Classification : Not applicable.
Composition/information on ingredients : No products were found

State regulations

Massachussetts : None of the components are listed.
New York : None of the components are listed.
New Jersey : None of the components are listed.
Pennsylvania : None of the components are listed.
California Prop. 65 : This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals
Not Listed.

Montreal Protocol
Not Listed.

Stockholm Convention on Persistent Organic Pollutants
Not Listed.

Rotterdam Convention on Prior Informed Consent (PIC)
Not Listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not Listed.

Inventory list

United States (TSCA 8b) : All components are active or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue/Date of revision : 4/15/2021
Date of previous issue : Not applicable.
Version : 1
Internal code : 651-004
Prepared by : Invivoscribe, Inc.

Section 16. Other information

Key to abbreviations :

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMGD = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water portion coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 ("Marpol" = maritime pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Section 1: Identification

GHS product identifier	Part number	Other means of identification
Amplification Control - 6FAM for ABI Fluorescence Detection	20960011	Amplification Control - 6FAM for ABI Fluorescence Detection
Specimen Control Size Ladder - 6FAM for ABI Fluorescence Detection	20960021	Specimen Control Size Ladder - 6FAM for ABI Fluorescence Detection
IGH Tube A - 6FAM for ABI Fluorescence Detection	21010011	*IGH* Tube A - 6FAM for ABI Fluorescence Detection
IGH Tube C - HEX for ABI Fluorescence Detection	21010031	*IGH* Tube C - HEX for ABI Fluorescence Detection
IGH Tube D - HEX for ABI Fluorescence Detection	21010041	*IGH* Tube D - HEX for ABI Fluorescence Detection
IGH Tube E - 6FAM Fluorescence Detection	21010051	*IGH* Tube E - 6FAM Fluorescence Detection
IGH Framework 1 (FR1) - 6FAM for ABI Fluorescence Detection	21010061	*IGH* Framework 1 (FR1) - 6FAM for ABI Fluorescence Detection
IGH Framework 3 (FR3) - HEX for ABI Fluorescence Detection	21010081	*IGH* Framework 3 (FR3) - HEX for ABI Fluorescence Detection
IGH Framework 2 (FR2) - 6FAM for ABI Fluorescence Detection	21010091	*IGH* Framework 2 (FR2) - 6FAM for ABI Fluorescence Detection
IGH Tube B - 6FAM for ABI Fluorescence Detection	21010101	*IGH* Tube B - 6FAM for ABI Fluorescence Detection
Hypermutation Mix 1 v2.0 - 6FAM for ABI Fluorescence Detection	21010171	Hypermutation Mix 1 v2.0 - 6FAM for ABI Fluorescence Detection
Hypermutation Mix 2 v2.0 6FAM for ABI Fluorescence Detection	21010181	Hypermutation Mix 2 v2.0 6FAM for ABI Fluorescence Detection
IGK Tube A - 6FAM for ABI Fluorescence Detection	21020011	*IGK* Tube A - 6FAM for ABI Fluorescence Detection
IGK Tube B - 6FAM for ABI Fluorescence Detection	21020021	*IGK* Tube B - 6FAM for ABI Fluorescence Detection
IGL Tube - 6FAM for ABI Fluorescence Detection	21030011	*IGL* Tube - 6FAM for ABI Fluorescence Detection
TCRB Tube A - 6FAM & HEX for ABI Fluorescence Detection	22050011	*TCRB* Tube A - 6FAM & HEX for ABI Fluorescence Detection
TCRB Tube B - 6FAM for ABI Fluorescence Detection	22050021	*TCRB* Tube B - 6FAM for ABI Fluorescence Detection
TCRB Tube C - 6FAM & HEX for ABI Fluorescence Detection	22050031	*TCRB* Tube C - 6FAM & HEX for ABI Fluorescence Detection
TCRD Tube - 6FAM & HEX for ABI Fluorescence	22060011	*TCRD* Tube - 6FAM & HEX for ABI Fluorescence
T Cell Receptor Gamma Mix 2 - HEX for ABI Fluorescence Detection	22070021	T Cell Receptor Gamma Mix 2 - HEX for ABI Fluorescence Detection
T-Cell Receptor Gamma Mix 1 - 6FAM for ABI Fluorescence Detection	22070071	T-Cell Receptor Gamma Mix 1 - 6FAM for ABI Fluorescence Detection
TCRG - 6FAM	22070091	*TCRG* - 6FAM
BCR/ABL t(9;22) Mix 1a for Gel Detection	23100010	*BCR/ABL* t(9;22) Mix 1a for Gel Detection
BCR/ABL t(9;22) Mix 2a for Gel Detection	23100020	*BCR/ABL* t(9;22) Mix 2a for Gel Detection
BCR/ABL t(9;22) Mix 3a for Gel Detection	23100030	*BCR/ABL* t(9;22) Mix 3a for Gel Detection
BCR/ABL t(9;22) Mix 1b - HEX for ABI Fluorescence Detection	23100041	*BCR/ABL* t(9;22) Mix 1b - HEX for ABI Fluorescence Detection
BCR/ABL t(9;22) Mix 2b - HEX for ABI Fluorescence Detection	23100051	*BCR/ABL* t(9;22) Mix 2b - HEX for ABI Fluorescence Detection
BCR/ABL t(9;22) Mix 2c - HEX for ABI Fluorescence Detection	23100061	*BCR/ABL* t(9;22) Mix 2c - HEX for ABI Fluorescence Detection
BCR/ABL t(9;22) Mix 3b - 6FAM for ABI Fluorescence Detection	23100071	*BCR/ABL* t(9;22) Mix 3b - 6FAM for ABI Fluorescence Detection
BCR/ABL t(9;22) Mix 3c - 6FAM for ABI Fluorescence Detection	23100081	*BCR/ABL* t(9;22) Mix 3c - 6FAM for ABI Fluorescence Detection
BCR/ABL t(9;22) Mix 3d - 6FAM for ABI Fluorescence Detection	23100101	*BCR/ABL* t(9;22) Mix 3d - 6FAM for ABI Fluorescence Detection
PML/RARα t(15;17) Mix 1 - HEX for ABI Fluorescence Detection	23110011	*PML/RARα* t(15;17) Mix 1 - HEX for ABI Fluorescence Detection
PML/RARα t(15;17) Mix 2a for Gel Detection	23110020	*PML/RARα* t(15;17) Mix 2a for Gel Detection
PML/RARα t(15;17) Mix 2b - HEX for ABI Fluorescence Detection	23110031	*PML/RARα* t(15;17) Mix 2b - HEX for ABI Fluorescence Detection
PML/RARα t(15;17) Mix 2c - HEX for ABI Fluorescence Detection	23110041	*PML/RARα* t(15;17) Mix 2c - HEX for ABI Fluorescence Detection
FLT3 ITD Master Mix - 6FAM & HEX for ABI Fluorescence Detection	24120011	*FLT3* ITD Master Mix - 6FAM & HEX for ABI Fluorescence Detection
FLT3 D835 Master Mix - 6FAM for ABI Fluorescence Detection	24120031	*FLT3* D835 Master Mix - 6FAM for ABI Fluorescence Detection
Primer Hypermutation 100 µM - Unlabeled	30000000	Primer Hypermutation 100 µM - Unlabeled
IGH JH Primer 100 µM - Unlabeled	31010380	*IGH* JH Primer 100 µM - Unlabeled

Product type : Liquid

Relevant identified issues of the substance or mixture and uses advised against

Identified uses	For amplification of gene rearrangements.
Restrictions on use	: For professional users only.

Section 1: Identification

Supplier's details : Invivoscribe, Inc.
10222 Barnes Canyon Road, Building 1
San Diego, CA
92121 USA
Tel: 1 858 224 6000
Toll Free: 1 866 623 8105
Email: customerservice@invivoscribe.com
Website: invivoscribe.com

Emergency telephone (with hours of operation) : 1 866 623 8105
8 AM – 5 PM PST

Section 2. Hazards Identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910:1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

- **Signal word** : No signal word.
- **Hazard statements** : No known significant effects or critical hazards.

Precautionary statements

- **Prevention** : Not applicable.
- **Response** : Not applicable.
- **Storage** : Not applicable.
- **Disposal** : Not applicable.
- **Hazards not otherwise classified** : None known.

Section 3. Compositions/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Ingredient Name	%	CAS Number
Dimethyl Sulfoxide	≥1 - ≤3	67-68-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- **Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- **Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- **Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
- **Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Section 4. First aid measures

Potential acute health effects

- Eye contact : No known significant effects or critical hazards.
- Inhalation : No known significant effects or critical hazards.
- Skin contact : No known significant effects or critical hazards.
- Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact : No known significant effects or critical hazards.
- Inhalation : No known significant effects or critical hazards.
- Skin contact : No known significant effects or critical hazards.
- Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments : No specific treatment.
- Protection of first aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media : None known.
- Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products : Decomposition products may include the following materials:
  carbon dioxide
  carbon monoxide
  sulfur oxides

Special protective actions for fire-fighters : 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 personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel : 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. Put on appropriate personal protective equipment.
- For emergency responders : 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”.
- 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).

Methods and materials for containment and cleaning up

- Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water soluble. Alternatively, or if water soluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure to controls/personal protection

Control parameters

Occupational exposure limits

Ingredient Name	Exposure limits
Dimethyl sulfoxide	**AIHA WEEL (United States, 7/2018).** TWA: 250 ppm 8 hours

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the 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..

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicated this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. In contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with and approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body 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.

Other skin protection : Appropriate footwear 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.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear.]

Color : Colorless, light yellow, light pink, light blue or light orange.

Odor : Odorless.

Odor threshold : Not available.

pH : 7 to 9.5.

Section 9. Physical and chemical properties

Melting/freezing point	:	Not available.
Initial boiling point and boiling range	:	Not available.
Flash point	:	Does not flash.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
Solubility in water	:	Not available.
Partition coefficient: n-octanol/water	:	Not applicable.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Not available.
Flow time (ISO 2431)	:	Not available.

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials Hazardous	:	Reactive or incompatible with the following materials: oxidizing materials.
decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Dimethyl sulfoxide	LD50 Dermal LD50 Oral	Rat Rat	40000 mg/kg 14500 mg/kg	- -

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific Target organ toxicity (single exposure)

There is no data available.

Specific Target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Section 11. Toxicological information

Information on the likely routes of exposure : Routes on entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact : No known significant effects or critical hazards.
- Inhalation : No known significant effects or critical hazards.
- Skin contact : No known significant effects or critical hazards.
- Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact : No known significant effects or critical hazards.
- Inhalation : No known significant effects or critical hazards.
- Skin contact : No known significant effects or critical hazards.
- Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Short term exposure

- Potential immediate effects : No known significant effects or critical hazards.
- Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

- Potential immediate effects : No known significant effects or critical hazards.
- Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

- General : No known significant effects or critical hazards.
- Carcinogenicity : No known significant effects or critical hazards.
- Mutagenicity : No known significant effects or critical hazards.
- Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Dimethyl sulfoxide	Acute EC50 18299 µg/L Marine water Acute LC50 37.437 mg/L Marine water Acute LC50 25000 ppm Fresh water Acute LC50 34000000 µg/L Fresh water Chronic NOEC 3323 µg/L Marine water Chronic NOEC 100 µl/L Fresh water	Algae – Nitzschia pungens Crustaceans – Artemia sp. Daphnie – Daphnia magna – Neonate Fish – Pimephales promelas Algea – Nitzschia pungens Daphnia – Daphnia magna – Juvenile (Fledgling, Hatchling, Weanling)	96 hour 48 hours 48 hours 96 hours 96 hours 21 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP	BCF	Potential
Dimethyl sulfoxide	-1.35	3.16	low

Mobility in soil

- Soil/water partition coefficient (K_{OC}) : Not available.
- Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solution and any by-products should 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. 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

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental Hazards	No.	No.	No.

AERG : Not applicable

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.

Transportation in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined.
Clean Water Act (CWA) 311: Hydrochloric Acid.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrochloric acid	≤0.0025	Yes.	500	-	5000	-

SARA 304 RQ : 277831623,1 lbs / 126135556,9 kg

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found

State regulations

Massachusetts : None of the components are listed.
New York : None of the components are listed.
New Jersey : The components are listed: Dimethyl sulfoxide.
Pennsylvania : None of the components are listed.
California Prop. 65 This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not Listed.

Montreal Protocol

Not Listed.

Section 15. Regulatory information

Stockholm Convention on Persistent Organic Pollutants

Not Listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not Listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not Listed.

Inventory list

United States (TSCA 8b) : All components are active or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue/Date of revision : 4/15/2021

Date of previous issue : Not applicable.

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Prepared by : Invivoscribe, Inc..

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMGD = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water portion coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (“Marpol” = maritime pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

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