



# Safety Data Sheet

KPL N<sub>1</sub>, N<sub>1</sub>, - Dimethylformamide SDS

SDS-10136

Rev. Number: 6

Rev. Date: Feb 4, 2019

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
TMB Solution, 5 L	5120-0052, 50-76-09
TMB Solution, 19.5 L	5120-0051, 50-76-08
TMB Solution, 450 mL	5120-0049, 50-76-02
TMB Solution, 100 mL	5120-0048, 50-76-01
TMB 2-C Elisa Substrate, 60 mL	5120-0019, 37-00-78

### Hazardous Reagent

TMB Peroxidase Substrate System

### Hazardous Reagent Product code

Catalog No. listed above

**Recommended Use:** Reference Reagent

**Contact Manufacturer:** SeraCare Life Sciences  
910 Clopper Road  
Gaithersburg, MD 20878

**Phone #:** (508) 244-6400  
US Toll Free: (800) 676-1881

**Fax #:** (508) 634-3394

**Web:** [www.seracare.com](http://www.seracare.com)

**Email:** [customerservice@seracare.com](mailto:customerservice@seracare.com)

### Emergency Telephone Numbers:

AUSTRALIA – POISONS INFORMATION CENTER

Telephone: 13 11 26 - Hours: 24 hours

CANADIAN TRANSPORT EMERGENCY CENTER

Telephone: (1) 613 996 6666 - Hours: 24 hours/day,  
7 days/week

UK – THE NATIONAL FOCUS

Telephone: (44) 029 2041 6388 - Hours: 09:00-17:00 GMT

USA - NATIONAL RESPONSE CENTER

Telephone: (1) 800 424 8802 - Hours: 24 hours/day,  
7 days/week

### CHEMTREC:

CHEMTREC Customer Number: - CCN12505\*  
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300 CCN12505 or  
+1 703-527-3887 (collect calls accepted)

## 2. HAZARD IDENTIFICATION

<b>Hazard Type</b>	Health Hazard
<b>GHS Classification</b>	<p><b>GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)</b></p> <p>Flammable liquids (Category 3), H226</p> <p>Acute toxicity, Inhalation (Category 4), H332</p> <p>Acute toxicity, Dermal (Category 4), H312</p> <p>Eye irritation (Category 2A), H319</p> <p>Reproductive toxicity (Category 1B), H360</p>
<b>Hazard Statements:</b>	<p>H332: Harmful if inhaled</p> <p>H319: Causes serious eye irritation</p> <p>H226 Flammable liquid and vapour.</p> <p>H312 + H332 Harmful in contact with skin or if inhaled</p> <p>H360 May damage fertility or the unborn child.</p>
<b>Precautionary Statements:</b>	<p>P201: Obtain special instructions before use.</p> <p>P202: Do not handle until all safety precautions have been read and understood.</p> <p>P264: Wash skin thoroughly after handling.</p> <p>P280: Wear protective gloves/ protective clothing / eye protection/ face protection.</p> <p>P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.</p> <p>P233 Keep container tightly closed.</p> <p>P240 Ground/bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take precautionary measures against static discharge.</p> <p>P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308 + P313 IF exposed or concerned: Get medical advice/ attention.</p> <p>P337 + P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.</p> <p>P403 + P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p>

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P501 Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified or not covered by GHS:** Rapidly absorbed through skin.**Symbols and Indications of Danger:**

GHS08

GHS07

GHS02

Danger

**Principle Route of Exposure:** The substance can be absorbed into the body by inhalation and through the skin.**Acute Effects: Eye** May cause redness and irritation**Acute Effects: Skin:** May be absorbed**Acute Effects: Inhalation:** Abdominal pain; Diarrhea; Nausea. Vomiting; Facial flushing. .**Inhalation Risk:** A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.**Short-Term Exposure** The substance is irritating to the eyes. The substance may cause effects on the liver, resulting in jaundice.**Long-Term Exposure** The substance may have effects on the liver, resulting in impaired functions. Animal tests show that this substance possibly causes toxic effects upon human reproduction.**Ingestion:** Do not eat, drink, smoke when using this product.**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
TMB Peroxidase Substrate	N1, N1, - Dimethylformamide (DMF)C <sub>3</sub> H <sub>7</sub> NO	26%	68-12-2

**Classification**

Repr. 1B,  
 Acute Tox. 4,  
 Eye Irrit. 2A,  
 EC-No: 200-679-5  
 Index-No.:616-001-00-X  
 Flam. Liq. 3;  
 H226, H312 + H332, H319, H360

#### 4. FIRST AID MEASURES

<b>General Advice:</b>	Wash contaminated clothing before reuse. Seek medical attention if necessary.
<b>Ingestion First Aid:</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician
<b>Inhalation Exposure:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician
<b>Skin Exposure:</b>	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
<b>Eye Exposure:</b>	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

#### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media:</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unusual Fire and Explosive Hazards:</b>	Not considered flammable but may burn at high temperatures, product is not explosive
<b>Flash Point:</b>	Closed cup: 58°C
<b>Auto ignition Temperature:</b>	Not Available
<b>Flammability Statement:</b>	Not Available
<b>Specific hazards arising from the chemical:</b>	Fire hazard: not considered flammable but may burn at high temperature Explosion: Product is not explosive Reactivity: Hazardous reactions will not occur under normal condition
<b>Protective equipment and precautions for firefighters:</b>	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.
<b>Environmental Precautions:</b>	Prevent entry to sewers and public water
<b>Method of Containment and Clean-up</b>	Clean up spills with dikes or absorbents to prevent migration and entry into sewers or Streams.  Clean up of spills immediately and dispose of waste safely. Transfer spilled material to suitable container for disposal. Contact competent authorities after a spill.
<b>Other Information:</b>	Not Available

#### 7. HANDLING AND STORAGE

<b>Handling:</b>	Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapor/spray. Avoid contact with skin, eyes and clothing.
<b>Storage:</b>	Keep container closed when not in use. Store in a dry, cool place. Keep away from incompatible materials including strong acids, strong bases, strong oxidizers.

## 8. EXPOSURE CONTROL

<b>Respiratory Protection:</b>	Ventilation, local exhaust; if irritation is experienced, approved respiratory protection should be worn
<b>Eye Protection:</b>	Safety goggles
<b>Skin Protection:</b>	Protective gloves, protective clothing.
<b>Ingestion:</b>	Rinse mouth.  Do not eat, drink, or smoke during handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear to slightly bluish colored solution.
<b>Physical State:</b>	Liquid
<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	Not Available
<b>Boiling Point:</b>	100°C
<b>Evaporation Rate:</b>	Not Available
<b>Vapor Density:</b>	Not Available
<b>Vapor Pressure:</b>	Not Available
<b>Relative Density:</b>	Not Available
<b>Auto-Ignition Temperature:</b>	Not Available
<b>Water Solubility:</b>	Completely miscible
<b>Flash Point:</b>	Not Available
<b>Viscosity:</b>	Not Available
<b>Oxidizing Properties:</b>	Not Available
<b>Explosive Properties:</b>	Not Available
<b>Additional Parameters</b>	See Datasheet/Product Insert for other Product Information.

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	This material is stable under normal conditions.
<b>Conditions to avoid:</b>	Extremely high or low temperatures, a, incomparable materials and direct sunlight.
<b>Incompatibility Materials to Avoid:</b>	Strong acids, strong bases and strong oxidizing agents
<b>Hazardous Decomposition Products:</b>	None known
<b>Hazardous Polymerization:</b>	Not Available
<b>Possibility of hazardous reactions:</b>	Not Available

## 11. TOXICOLOGY MEASURES

### Acute Toxicity

The toxicological risks are minor due to the low concentration of hazardous ingredients. The following toxicological information is for the hazardous ingredient in pure form.

**LD50 Oral:** Not classified

**LD50 Dermal:** Not classified

**LC50 Inhalation:** Not classified

### Chronic Toxicity

**Carcinogenicity:** Not classified

**Irritation:** Not classified

An eye and skin irritant

**Corrosivity:** Not classified

**Sensitization:** Not classified

**Neurological Effects:** No data available

**Mutagenic Effects:** No data available

**Reproductive Effects:** May damage fertility or the unborn child.

**Developmental Effects:** No data available

**Target Organ Effects:** Not classified

**Other adverse effects:** Not classified

## 12. ECOLOGICAL MEASURES

**Ecotoxicity:** Not classified

**Persistence/Degradability:** Not established

**Mobility in Environmental Media:** Not Available

**Bioaccumulation/  
Accumulation:** N,N-Dimethylformamide (CAS # 68-12-2)  
BCF Fish 1 0.3 –1.2  
Log Pow -1.028

## 13. DISPOSAL MEASURES

**Waste Disposal Method:** Dispose of contents / container in accordance with local, regional, national, and international regulation

**Contaminated Packaging:** Avoid contact with skin and clothing. Place contaminated packaging in a break proof outer vessel and dispose on in compliance with national and local regulations.

**US EPA Waste Number:** Not Available

## 14. TRANSPORTATION MEASURES

**DOT:** Not regulated for transport

**IATA:** Not regulated for transport

**ADR (road)/ RID (rail):** Not regulated for transport

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IMDG (sea): Not regulated for transport

General Transport Regulations Not regulated for transport

## 15. REGULATORY MEASURES

**This product is a mixture that may contain one or more hazardous chemicals. The hazardous ingredients listed are only those as required by 29 CFR 1910.1200 (OSHA HCS).**

### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). N,N-Dimethylformamide (conc. >1%); CAS # 68-12-2

### **REACH (EU) 1907/2006**

N,N-Dimethylformamide (conc. >1%); CAS # 68-12-2 included in the Candidate List of Substances of Very High Concern (SVHC)

### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (See 40 CFR 61)**

This product contains no chemicals which are subject to the reporting requirements of the Clean Air Act2

### **State Regulations**

#### **California Proposition 65:**

This product contains the following Proposition 65 chemicals

This product contains the following Proposition 65 chemicals: N,N-Dimethylformamide. Type of Toxicity: Cancer. CAS no. 68-12-2. Listed: 27 Oct 2017

#### **State Right to Know Act**

<b>Chemical Name</b>	<b>N,N,-Dimethylformamide</b>
<b>Massachusetts:</b>	Listed
<b>New Jersey:</b>	Listed
<b>Pennsylvania:</b>	Listed
<b>New York:</b>	Not Applicable
<b>Rhode Island:</b>	Not Applicable

#### **International Inventories**

<b>Chemical Name</b>	<b>N,N,-Dimethylformamide</b>
<b>TSCAL:</b>	Listed
<b>DSL:</b>	Listed
<b>NDSL:</b>	Not Listed
<b>EINECS:</b>	Listed
<b>CHINA:</b>	Listed
<b>KECL:</b>	Listed
<b>JAPAN:</b>	Listed
<b>AICS:</b>	Listed

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**EU Regulations****Annex I Index#:**

616-001-00-X

**Classification:**

Flammable liquids (Category 3), H226

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2A), H319

Reproductive toxicity (Category 1B), H360

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Regulation (EC) No 1272/2008

**REACH (EU) 1907/2006**

This Product contains N,N-Dimethylformamide (conc. > 1%); CAS # 68-12-2, included in the Candidate List of Substances of Very High Concern (SVHC)

Flam. Liq. 3; Acute Tox. 4; Eye Acute Tox. Acute toxicity Eye Irrit. Eye irritation Flam. Liq. Flammable liquids H226  
Irrit. 2A; Repr. 1B; H226, H312 Flammable liquid and vapor.

+ H332, H319, H360

H312 Harmful in contact with skin.

90 - 100 %

H312 + H332 Harmful in contact with skin or if inhaled

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H360 May damage fertility or the unborn child.

**Hazard Statements:**

H226 Flammable liquid and vapor.

H312 + H332 Harmful in contact with skin or if inhaled

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child

**Precautionary Statements:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.



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P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified or not covered by GHS: Rapidly absorbed through skin.

**Symbols and Indications of Danger:**

GHS02

GHS07

GHS08

Danger

**Specific Concentration Limits:**

Not Applicable

## 16. OTHER INFORMATION

The above information is believed to be accurate, complete and current but does not purport to be all inclusive and shall be used as a guide. SeraCare Life Sciences makes no representation or warranties with respect to the product described herein, including but not limited to any implied warranties or merchantability or fitness for a particular use. SeraCare assumes no liability or responsibility and authorizes no other person to assume any additional liability or responsibility as a result of the use of this product or the information contained in the Safety Data Sheet.

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