

# Safety Data Sheet



Revision Date: 7/3/2014

SDS #: SDS-10309-01

SureLINK™ Fluorescein (FITC) Labeling kit

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Description:

SureLINK™ Fluorescein (FITC) Labeling kit

### Product Code

82-00-01

### Kit Components:

SureLINK™ Fluorescein (FITC)	82-01-01
Carbonate-Bicarbonate Buffer Capsules	82-01-02
N,N,-Dimethylformamide	82-01-03
REACTION TUBES	82-01-05
SPIN-PURE FILTERS	60-00-53

**Recommended Use** Reagent

**Contact Manufacturer** KPL, Inc.  
910 Clopper Road  
Gaithersburg, Maryland 20878  
USA

**Phone #:** 1-301-948-7755

**Fax #:** 1-301-948-0169

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

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

### Emergency Telephone Numbers:

AUSTRALIA – POISONS INFORMATION CENTER  
CANADIAN TRANSPORT EMERGENCY CENTER  
UK – THE NATIONAL FOCUS  
USA- NATIONAL RESPONSE CENTER

Telephone: 13 11 26  
Telephone: (1 ) 613 996 6666  
Telephone: (44) 029 2041 6388  
Telephone: (1 ) 800 424 8802

Hours: 24 hours  
Hours: 24 hours/day, 7 days/week  
Hours: 09:00-17:00 GMT  
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)

# Safety Data Sheet



Revision Date: 7/10/2014

SDS #: 10310

SURELINK™ FITC

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
SURELINK™ FITC	82-01-00
SURELINK™ FITC	82-01-01

**Hazardous Reagent**  
Not Available

**Hazardous Reagent Product code**  
Not Available

**Recommended Use** Reagent

**Contact Manufacturer** KPL, Inc.  
910 Clopper Road  
Gaithersburg, Maryland 20878  
USA

**Phone #:** 1-301-948-7755  
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## 2. HAZARD IDENTIFICATION

<b>Hazard Type</b>	GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment.
<b>Principle Route of Exposure</b>	Not Available
<b>Acute Effects: Eye:</b>	May cause redness and irritation
<b>Acute Effects: Skin:</b>	May be absorbed. Dry skin. Redness. May cause an allergic skin reaction.

<b>Acute Effects: Inhalation:</b>	May cause irritation to the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Acute Effects: Ingestion:</b>	May be harmful if swallowed.
<b>Chronic Effects:</b>	Not Available
<b>Additional Information</b>	Not Available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
SURELINK™ FITC	Fluorescein 5-isothiocyanate	100%	3326-32-7

<b>GHS Classification</b>	EC# : 222-042-0 CAS# : 3326-32-7 Substance Name : 2-(6-hydroxy-3-oxo-(3H)-xanthen-9-yl)-5-isothiocyanatobenzoic acid Molecular Formula : C <sub>21</sub> H <sub>11</sub> NO <sub>5</sub> This substance is not classified in the Annex I of Directive 67/548/EEC as such, but it may be included in one of the group entries.
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### 4. FIRST AID MEASURES

<b>General Advice</b>	Wash contaminated clothing before reuse. Consult a physician if irritation persists.
<b>Oral Exposure</b>	Never give anything by mouth to an unconscious person. Rinse mouth. Refer for medical attention.
<b>Inhalation Exposure</b>	Remove subject to fresh air. If not breathing, give artificial respiration. Seek medical attention if necessary.
<b>Skin Exposure</b>	Flush skin with copious amounts of water. Consult a physician.
<b>Eye Exposure</b>	Flush eyes with copious amounts of water.

### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray. Alcohol-resistant foam. Dry powder. Carbon dioxide.
<b>Unusual Fire and Explosive Hazards</b>	Not Available
<b>Flash Point</b>	Not Available
<b>Autoignition Temperature</b>	No Data Available
<b>Flammability Statement</b>	No Data Available
<b>Specific hazards arising from the chemical</b>	Carbon oxides, Nitrogen Oxides, Sulphur Oxides

**Protective equipment and precautions for firefighters**

Wear self-contained breathing apparatus and protective suit.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Avoid contact with skin, eyes and clothing. Avoid dust formation. Avoid breaking vapors, mist or gas. Ensure adequate ventilation. Evacuated personnel to safe areas. Avoid breathing dust.
<b>Environmental Precautions</b>	Prevent further leakage or spillage if safe to do so. Should not be released into the environment.
<b>Method of Containment</b>	Wear respiratory protection, eye protection, hand protection and body protection. Carefully sweep up, gather and remove. Avoid rising dust. Afterwards ventilate area and wash spill site.
<b>Methods of Clean-up</b>	Clean-up with copious amounts of water.
<b>Other Information</b>	Wear respiratory protection, eye protection, hand protection and body protection

**7. HANDLING AND STORAGE**

<b>Handling:</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation in confined areas. Fine dust dispersed in air may ignite. Ensure adequate ventilation.
<b>Storage:</b>	Dessication required. Store at -20°C. Protect material from long-term exposure to light; maybe exposed to light for short periods of time. Keep in properly labelled containers.

**8. EXPOSURE CONTROL**

<b>Respiratory Protection</b>	For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
<b>Eye Protection</b>	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
<b>Skin Protection</b>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be

evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Ingestion**

Do not eat, drink, or smoke during work.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Form: solid
<b>Physical State</b>	Solid
<b>Odor</b>	Not Available
<b>Odor Threshold</b>	Not Available
<b>pH</b>	Not Available
<b>Boiling Point</b>	Not Available
<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>	Low
<b>Flammability</b>	Not Available
<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>	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Heat. Exposure to moisture.
<b>Incompatibility Materials to Avoid</b>	Alcohols, Strong bases, Amines, Acids, Strong Oxidizing agents.
<b>Hazardous Decomposition Products</b>	Not Available
<b>Hazardous Polymerization</b>	Will not occur.
<b>Possibility of hazardous reactions</b>	None under normal processing

## 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.

<b>LD50 Oral</b>	Not Available
<b>LD50 Dermal</b>	Not Available

LC50 Inhalation Not Available

**Chronic Toxicity**

Carcinogenicity Not Available

Irritation Not Available

Corrosivity Not Available

Sensitization Not Available

Neurological Effects Not Available

Mutagenic Effects Not Available

Reproductive Effects Not Available

Developmental Effects Not Available

Target Organ Effects Not Available

Other adverse effects Not Available

## 12. ECOLOGICAL MEASURES

Ecotoxicity Not Available

Persistence/Degradability Not Available

Mobility in Environmental Media Not Available

Bioaccumulation/Accumulation Not Available

## 13. DISPOSAL MEASURES

**Waste Disposal Method:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated Packaging:** Dispose of as unused product.

**US EPA Waste Number:** Not Available

## 14. TRANSPORTATION MEASURES

**DOT:** Not dangerous goods

**IATA:** Not dangerous goods

**ADR (road)/ RID (rail):** Not Available

**IMDG (sea):** Not dangerous goods

**General Transport Regulations** Not dangerous goods

## 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 g 2.C1.****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains no chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

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

Not Available

**State Regulations****California Proposition 65:**

This product contains the following Proposition 65 chemicals: Not Listed

**State Right to Know Act**

<b>Chemical Name</b>	<b>Fluorescein 5-isothiocyanate</b>
<b>Massachusetts</b>	Not Listed
<b>New Jersey</b>	Not Listed
<b>Pennsylvania</b>	Not Listed
<b>New York</b>	Not Listed
<b>Rhode Island</b>	Not Listed

**International Inventories**

<b>Chemical Name</b>	<b>Fluorescein 5-isothiocyanate</b>
<b>TSCA</b>	Listed
<b>DSL</b>	Listed
<b>NDSL</b>	Not Listed
<b>EINECS</b>	Listed
<b>CHINA</b>	Listed
<b>KECL</b>	Not Listed
<b>JAPAN:</b>	Listed
<b>AICS</b>	Listed

**EU Regulations**

<b>Annex I Index#</b>	Not Applicable
<b>Classification</b>	EC# : 222-042-0 CAS# : 3326-32-7 Substance Name : 2-(6-hydroxy-3-oxo-(3H)-xanthen-9-yl)-5-isothiocyanatobenzoic acid Molecular Formula : C <sub>21</sub> H <sub>11</sub> NO <sub>5</sub> This substance is not classified in the Annex I of Directive 67/548/EEC as such, but it may be included in one of the group entries.
<b>Risk Phrases</b>	Not Applicable
<b>Safety Phrases</b>	Not Applicable
<b>Symbols and Indications of Danger</b>	Not Applicable

SDS #: 10310

SURELINK™ FITC

**Specific Concentration Limits** Not Applicable

**Export and Import** This substance is not listed in the Annex I of Regulation (EC) No 649/2012.

**European Priority List** This substance is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).

## 16. OTHER INFORMATION

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. KPL shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. This material is sold for research purposes and is intended as laboratory reagents only. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

Revision Date: 7/10/2014



# Safety Data Sheet



Revision Date: 7/4/2014

MSDS #: 10311

## Carbonate-bicarbonate Buffer Capsules

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Description:**

**Product Code**

CARBONATE-BICARBONATE BUFFER  
CAPSULES

82-01-02

**Hazardous Reagent**

Carbonate-bicarbonate Buffer Capsules

**Hazardous Reagent Product code**

Catalog No. Listed Above

**Recommended Use** Reagent

**Contact Manufacturer** KPL, Inc.  
910 Clopper Road  
Gaithersburg, Maryland 20878  
USA

**Phone #:** 1-301-948-7755  
**Fax #:** 1-301-948-0169  
**Web:** www.kpl.com  
**Email:** kplmsds@seracare.com

**Emergency Telephone Numbers:**

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+1 703-527-3887 (collect calls accepted)

### 2. HAZARD IDENTIFICATION

**Hazard Type** Eye Irritation (Category 2A), H319

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

**Classification** Eye irritation (Category 2A), H319

**Hazard Statement**

H319: Causes serious eye irritation.

**Precautionary Statement**

P264: Wash skin thoroughly after handling.  
P280: Wear protective gloves/ eye protection/ face protection.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313: If eye irritation persists: Get medical advice/ attention.

**Symbols of Danger**

GHS07: Warning

**Data for 100% Hazardous Chemical**

May cause redness and irritation  
 May be absorbed. Dry skin. Redness.  
 May cause irritation to the respiratory tract.  
 May be harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
Carbonate-bicarbonate Buffer Capsules	Proprietary Component (Trade Secret per 29 CFR 1910.1200 i 1)	30-60%	Proprietary

Classification Eye irritation (Category 2A), H319

### 4. FIRST AID MEASURES

**Data for 100% Hazardous Chemical**

### 5. FIRE FIGHTING MEASURES

**Data For 100% Hazardous Chemical**

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Avoid contact with skin, eyes and clothing. Avoid dust formation. Avoid breaking vapors, mist or gas.
<b>Environmental Precautions</b>	Prevent further leakage or spillage if safe to do so. Should not be released into the environment.
<b>Method of Containment</b>	Wear respiratory protection, eye protection, hand protection and body protection. Carefully sweep up, gather and remove. Avoid rising dust. Afterwards ventilate area and wash spill site.
<b>Methods of Clean-up</b>	Clean-up with copious amounts of water.
<b>Other Information</b>	Wear respiratory protection, eye protection, hand protection and body protection

**Data for 100% Hazardous Chemical**

### 7. HANDLING AND STORAGE

<b>Handling:</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation in confined areas. Fine dust dispersed in air may ignite. Take precautionary measures against static discharges. Remove all sources of ignition. Ensure adequate ventilation.
<b>Storage:</b>	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat. Keep in properly labelled containers.

**Data for 100% Hazardous Chemical**

### 8. EXPOSURE CONTROL

**Data for 100% Hazardous Chemical**

**Engineering Controls** Not Available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Form: solid	
<b>Physical State</b>	Solid	<b>pH:</b> Not Available

Data for 100% Hazardous Chemical

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Incompatibility Materials to Avoid</b>	Strong Acids
<b>Hazardous Decomposition Products</b>	Not Available
<b>Hazardous Polymerization</b>	Not Available

Data for 100% Hazardous Chemical

## 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.

<b>LD50 Oral</b>	Not Available
<b>LD50 Dermal</b>	Not Available
<b>LC50 Inhalation</b>	Not Available

**Chronic Toxicity**

<b>Carcinogenicity</b>	Not Available
<b>Irritation</b>	Not Available
<b>Corrosivity</b>	Not Available
<b>Sensitization</b>	Not Available
<b>Neurological Effects</b>	Not Available
<b>Mutagenic Effects</b>	Not Available
<b>Reproductive Effects</b>	Not Available
<b>Developmental Effects</b>	Not Available
<b>Target Organ Effects</b>	Not Available
<b>Other adverse effects</b>	Not Available

## 12. ECOLOGICAL MEASURES

<b>Ecotoxicity</b>	Not Available
<b>Persistence/Degradability</b>	Not Available
<b>Mobility in Environmental Media</b>	Not Available
<b>Bioaccumulation/Accumulation</b>	Not Available

## 13. DISPOSAL MEASURES

<b>Waste Disposal Method:</b>	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
<b>Contaminated Packaging:</b>	Dispose of as unused product.

US EPA Waste Number: Not Available

## 14. TRANSPORTATION MEASURES

DOT: Not dangerous goods  
 IATA: Not dangerous goods  
 ADR (road)/ RID (rail): Not Available  
 IMDG (sea): Not dangerous goods  
 General Transport Regulations Not dangerous goods

## 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 q 2.C1.

### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains no chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

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

Not Available

### State Regulations

#### California Proposition 65:

This product contains the following Proposition 65 chemicals: Not Listed

### State Right to Know Act

Chemical Name	Proprietary Component (Trade Secret per 29 CFR 1910.1200 i 1)
Massachusetts	Not Listed
New Jersey	Listed
Pennsylvania	Listed
New York	Not Available
Rhode Island	Not Available

### International Inventories

Chemical Name	Proprietary Component (Trade Secret per 29 CFR 1910.1200 i 1)
TSCA	Not Available
DSL	Not Available
NDSL	Not Available
EINECS	Not Available
CHINA	Not Available
KECL	Not Available
JAPAN:	Not Available
AICS	Not Available

### EU Regulations

Annex I Index#	Not Available
Classification	Eye irritation (Category 2A), H319
Risk Phrases	H319: Causes serious eye irritation.

**Carbonate-bicarbonate Buffer Capsules****Safety Phrases**

P264: Wash skin thoroughly after handling.  
P280: Wear protective gloves/ eye protection/ face protection.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove  
contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313: If eye irritation persists: Get medical advice/ attention.

**Symbols and Indications of Danger**

GHS07: Warning

**Specific Concentration Limits**

Not Available

**Export and Import**

Not Available

**European Priority List**

Not Available

**16. OTHER INFORMATION**

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. KPL shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. This material is sold for research purposes and is intended as laboratory reagents only. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

Revision Date:

7/4/2014

# Safety Data Sheet



Revision Date: 7/3/2014

MSDS #: 10293

N,N,-Dimethylformamide

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Description:**

N,N,-Dimethylformamide

**Product Code**

82-01-03

**Hazardous Reagent**

N,N,-Dimethylformamide

**Hazardous Reagent Product code**

Catalog No. listed above

**Recommended Use** Reagent

**Contact Manufacturer** KPL, Inc.  
910 Clopper Road  
Gaithersburg, Maryland 20878  
USA

**Phone #:** 1-301-948-7755  
**Fax #:** 1-301-948-0169  
**Web:** www.kpl.com  
**Email:** kplmsds@seracare.com

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## 2. HAZARD IDENTIFICATION

**Hazard Type**

Health Hazard

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

**Classification**

Repr. 1B: Reproductive toxicity  
Acute Tox. 4 : Acute Toxicity  
Acute Tox. 4 \*  
Eye Irrit. 2: Serious eye damage/eye irritation  
Dgr: Danger

**Hazard Statement**

H360D: May damage the unborn child.  
H332: Harmful if inhaled  
H312: Harmful in contact with skin  
H319: Causes serious eye irritation

**Precautionary Statement**

P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P281: Use personal protective equipment as required.  
P264: Wash skin thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P280: Wear protective gloves/ protective clothing / eye protection/ face protection.

## Symbols of Danger

GHS08  
GHS07  
Danger

## Data for 100% Hazardous Chemical

**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation and through the skin.

**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 . See Notes.

**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.

**The product is a Mixture. It May Cause the following symptoms.**

**EYES:** Redness. Pain.

**SKIN:** MAY BE ABSORBED!

**INHALATION:** Abdominal pain. Diarrhoea. Nausea. Vomiting. Facial flushing.

**INGESTION:** Do not eat, drink, or smoke during work.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
N,N,-Dimethylformamide	N,N,-Dimethylformamide	100%	68-12-2

Classification

Repr. 1B: Reproductive toxicity  
 Acute Tox. 4 : Acute Toxicity  
 Acute Tox. 4 \*  
 Eye Irrit. 2: Serious eye damage/eye irritation  
 Dgr: Danger

### 4. FIRST AID MEASURES

## Data for 100% Hazardous Chemical

**Ingestion First Aid:** Not Available

**Inhalation First Aid:** Fresh air, rest. Refer for medical attention.

**Skin First Aid:** Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.

**Eye First Aid:** First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

### 5. FIRE FIGHTING MEASURES

## Data For 100% Hazardous Chemical

<u>Fire Acute Hazard:</u>	<u>Fire Prevention:</u>	<u>Fire Fighting:</u>
Flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with oxidants.	Powder, alcohol-resistant foam, water spray, carbon dioxide.
<u>Explosion Acute Hazard:</u>	Above 58°C use a closed system, ventilation.	In case of fire: keep drums, etc., cool by spraying with water.
Above 58°C explosive vapour/air mixtures may be formed.		

**CHEMICAL DANGERS:** The substance decomposes on heating or on burning producing toxic fumes including nitrogen oxides . Reacts violently with oxidants, nitrates and halogenated hydrocarbons. Attacks some plastic and rubber.

**PHYSICAL DANGERS:** Not Available

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Avoid contact with skin, eyes and clothing.
<b>Environmental Precautions</b>	Data for 100% Dimethylformamide:- Environmental effects from the substance have been investigated but none have been found.
<b>Method of Containment</b>	Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place.
<b>Methods of Clean-up</b>	Remove all ignition sources. Contain spill and then clean-up with copious amounts of water.
<b>Other Information</b>	Data for 100% Dimethylformamide:- Personal protection: complete protective clothing including self-contained breathing apparatus.

### Data for 100% Hazardous Chemical

**SPILLAGE DISPOSAL** Personal protection: complete protective clothing including self-contained breathing apparatus. Ventilation. Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or iner

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Handle in accordance with good industrial hygiene and safety practice. Take care to maintain clean working place. The substance must not be present at workplaces in quantities above that required for work to be progressed. Do not leave container open. Use leak-proof equipment with exhaust for refilling or transfer. Do not transport with/using compressed air. Avoid splashing. Fill only into labelled container. Use solvent resistant utensils. Avoid any contact when handling the substance. Prevent seepage into flooring (use of a steel tub). Use an appropriate exterior vessel when transporting in fragile containers.
<b>Storage:</b>	Store at 2 - 8°C. Separated from strong oxidants, halogens .

### Data for 100% Hazardous Chemical

**STORAGE** Separated from strong oxidants, halogens .

## 8. EXPOSURE CONTROL

### Data for 100% Hazardous Chemical

• <b>INHALATION</b>	Ventilation, local exhaust, or breathing protection.
• <b>EYES</b>	Safety goggles or eye protection in combination with breathing protection.
• <b>SKIN</b>	Protective gloves. Protective clothing.
• <b>INGESTION</b>	Rinse mouth.

**Engineering Controls** Not Available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Clear Colorless Liquid	
<b>Physical State</b>	Liquid	<b>pH:</b> Not Available

### Data for 100% Hazardous Chemical



Boiling point: 153°C	Melting point: -61°C	Relative density (water = 1): 0.95	Solubility in water: miscible	Vapour pressure, Pa at 25°C: about 492	Relative density of the vapour/air-mixture at 20°C (air = 1): 1.00
Flash point: 58°C c.c.	Auto-ignition temperature: 445°C	Explosive limits, vol% in air: 2.2-15.2 at 100°C	Octanol/water partition coefficient as log Pow: -0.87		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions
<b>Incompatibility Materials to Avoid</b>	Oxidants, nitrates and halogenated hydrocarbons, Acid Chlorides, Chloroformates
<b>Hazardous Decomposition Products</b>	Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides Data for 100% Dimethylformamide:- The substance decomposes on heating or on burning producing toxic fumes including nitrogen oxides .
<b>Hazardous Polymerization</b>	Will not occur

### Data for 100% Hazardous Chemical

<b>CHEMICAL DANGERS:</b>	The substance decomposes on heating or on burning producing toxic fumes including nitrogen oxides . Reacts violently with oxidants, nitrates and halogenated hydrocarbons. Attacks some plastic and rubber.
<b>PHYSICAL DANGERS:</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.

<b>LD50 Oral</b>	Data for 100% Dimethylformamide:- LD50 oral rat: 2800 mg/kg Reference: Zeitschrift für Krebsforschung, Vol. 69, Pg. 103, 1967.
<b>LD50 Dermal</b>	Data for 100% Dimethylformamide:- LD50 dermal rat/rabbit: 4720 mg/kg Species: Rabbit Reference: American Industrial Hygiene Association Journal. Vol. 30, Pg. 470, 1969.
<b>LC50 Inhalation</b>	Data for 100% Dimethylformamide:- LC50 Fish (96 hours) Minimum: 7100 mg/l Maximum: 11300 mg/l Median: 10500 mg/l Study number: 8  Reference: Cardwell, R.D., D.G. Foreman, T.R. Payne, and D.J. Wilbur 1978. Acute and Chronic Toxicity of Four Organic Chemicals to Fish. U.S.EPA, Environ.Res.Lab., Duluth, MN; Contract 68-01-0711 (Unpublished):26 p.

### Chronic Toxicity

<b>Carcinogenicity</b>	Not Applicable
<b>Irritation</b>	Skin and Eye Irritant
<b>Corrosivity</b>	Not Applicable
<b>Sensitization</b>	Not Applicable
<b>Neurological Effects</b>	Not Available
<b>Mutagenic Effects</b>	Not Available
<b>Reproductive Effects</b>	Data for 100% Dimethylformamide:- May damage the developing fetus.
<b>Developmental Effects</b>	Not Available
<b>Target Organ Effects</b>	Data for 100% Dimethylformamide:- Eyes, Skin and Respiratory tract, Liver, Kidneys
<b>Other adverse effects</b>	Not Available

## 12. ECOLOGICAL MEASURES

<b>Ecotoxicity</b>	LC50 Crustaceans (48 hours)  Minimum: 12300 mg/l Maximum: 14500 mg/l Median: 14400 mg/l  Study number: 3  Reference for median:  Ziegenfuss, P.S., W.J. Renaudette, and W.J. Adams 1986. Methodology for Assessing the Acute Toxicity of Chemicals Sorbed to Sediments: Testing the Equilibrium Partitioning Theory. In: T.M.Poston and R.Purdy (Eds.), Aquatic Toxicology and Environmental Fate, 9th Volume, ASTM STP 921, Philadelphia, PA :479-493
<b>Persistence/Degradability</b>	Not Available
<b>Mobility in Environmental Media</b>	Not Available
<b>Bioaccumulation/Accumulation</b>	Not Available

## 13. DISPOSAL MEASURES

<b>Waste Disposal Method:</b>	Collection of small amounts of substance: Place in a collection container for halogen-free organic solvents and solutions of halogen-free organic substances. Collection vessels must be clearly labelled with a systematic description of their contents and with the hazard symbol and the R and S phrases. Store the vessels in a well-ventilated location. Entrust them to the appropriate authorities for disposal.
<b>Contaminated Packaging:</b>	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.
<b>US EPA Waste Number:</b>	Not Available

## 14. TRANSPORTATION MEASURES

<b>DOT:</b>	Regulated: Hazard Class 3   DOT ID No.: UN2265
<b>IATA:</b>	Not Available
<b>ADR (road)/ RID (rail):</b>	Not Available
<b>IMDG (sea):</b>	Not Available
<b>General Transport Regulations</b>	Data for 100% Dimethylformamide: UN-Number: 2265 Shipping name: N,N-Dimethylformamide Hazard Identification Number: 30 Class: 3 (Flammable Liquids) Packing Group: III (low danger) Danger Label: 3

## 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). This product contains the following chemical(s) subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372: Dimethyl formamide

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

This product contains N,N-DIMETHYLFORMAMIDE which are subject to the reporting requirements of the Clean Air Act.

### **State Regulations**

**California Proposition 65:**

This product contains the following Proposition 65 chemicals: None Listed

**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>	Listed
<b>Rhode Island</b>	Listed

**International Inventories**

<b>Chemical Name</b>	<b>N,N,- Dimethylformamide</b>
<b>TSCA</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

**EU Regulations**

<b>Annex I Index#</b>	616-001-00-X
<b>Classification</b>	Repr. 1B: Reproductive toxicity Acute Tox. 4 : Acute Toxicity Acute Tox. 4 * Eye Irrit. 2: Serious eye damage/eye irritation Dgr: Danger
<b>Risk Phrases</b>	H360D: May damage the unborn child. H332: Harmful if inhaled H312: Harmful in contact with skin H319: Causes serious eye irritation
<b>Safety Phrases</b>	P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P281: Use personal protective equipment as required. P264: Wash skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/ protective clothing / eye protection/ face protection.
<b>Symbols and Indications of Danger</b>	GHS08 GHS07 Danger
<b>Specific Concentration Limits</b>	Not Available
<b>Export and Import</b>	This substance is not listed in the Annex I of Regulation (EC) No 689/2008.
<b>European Priority List</b>	This substance is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).

**16. OTHER INFORMATION**

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. KPL shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. This material is sold for research purposes and is intended as laboratory reagents only. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

Revision Date: 7/3/2014