BIO BASIC INC.

20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA TEL: (905) 474 4493, (800) 313 7224 FAX: (905) 474 5794

MATERIAL SAFETY DATA SHEET REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

MANUFACTURER'S NAME: BIO BASIC INC. TEL: (905) 474 4493 FAX: (905) 474 5794 FOR CHEMICAL EMERGENCY: (416) 995 9730

ADDRESS: 20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA

DATE UPDATED: MAY 07, 2014

SECTION 1. - - - - - CHEMICAL IDENTIFICATION - - - - - -

Product Name dATP, 100mM Solution, pH 7.0

Product Code(s) D0046A

Recommended Use For Further Manufacturing Use Only

Not for Human or Animal Drug Use

Synonyms 2'-Deoxy-Adenosine-5'-TP Solution

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS - Classification

Classification Not classified as a hazard

SECTION 3. ---- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
2`-Deoxyadenosine 5`-(disodium dihydrogen triphosphate)	EEC No. 277-809-2	Not available	74299-50-6	2.5-10	-

SECTION 4. - - - - - FIRST-AID MEASURES- - - - - - -

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

InhalationMove to fresh air. If breathing becomes difficult, give oxygenIngestionClean mouth with water and afterwards drink plenty of water.

Notes to Physician Treat symptomatically

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties Not flammable
Flash Point Not determined

Suitable Extinguishing MediaUse extinguishing media appropriate to surrounding fire conditions.

Hazardous Combustion Products Carbon oxides, Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive
Sensitivity to Static Discharge Not sensitive

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand,

MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure

adequate ventilation

Methods for Containment Prevent further leakage or spillage if safe to do so

Methods for Cleaning Up Absorb on sand or vermiculite and place in closed containers for disposal. Pick up and

transfer to properly labeled containers. Ventilate area and wash spill site after material

pickup is complete.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling Handle in accordance with good industrial hygiene and safety practice. Protect from light.

Storage Keep container tightly closed in a dry and well-ventilated place. Protect from light.

Incompatible Products No information available.

SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - -

Engineering Measures Showers

Eyewash stations Ventilation systems

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Wear protective gloves/clothing

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

provided in accordance with current local regulations

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance Clear and cololess

Odor No information available
Odor Threshold No information available
Decomposition Temperature °C No information available
Freezing Point No information available
Initial Boiling Point No information available

Physical State Solution

pH No data available
 Flash Point Not determined
 Autoignition Temperature No data available
 Boiling Point/Range No data available
 Melting Point/Range No data available

Flammability Limits in Air Upper No data available Lower No data available

Explosive Properties No information available

Oxidizing Properties No information available

Evaporation Rate

MMHG @ 37.8 C

No data available

Vapor Density

No data available

Specific Gravity

No data available

Water-Soluble

Partition Coefficient

No data available

(n-octanol/water)

Viscosity No information available

SECTION 10. ------STABILITY AND REACTIVITY -----

StabilityStable under recommended storage conditionsIncompatible ProductsNone known based on information supplied.Conditions to AvoidNone known based on information supplied.

Hazardous Decomposition Products Carbon oxides. Sulfur oxides.

Hazardous Polymerization Hazardous polymerization does not occur

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute Toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Chronic Toxicity

Chronic Toxicity No known effect based on information supplied.

Target Organ Effects None known.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

The environmental impact of this product has not been fully investigated.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA Not regulated

DOT Not regulated

SECTION 15. ----- REGULATORY INFORMATION -----

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
2`-Deoxyadenosine 5`-(disodium dihydrogen triphosphate)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
2`-Deoxyadenosine 5`-(disodium dihydrogen triphosphate) 74299-50-6 (2.5-10)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA Does not comply

EINECS/ELINCS Complies

ENCS
Does not comply
IECSC
Does not comply
KECL
Does not comply
PICCS
Does not comply
AICS
Does not comply

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico – Grade No information available.

Canada

WHMIS Hazard Class

Not determined

SECTION 16. ----- OTHER INFORMATION-----

Issuing Date 13-Aug-2009 **Revision Date** 07-May-2014

Revision Note No information available.

Recommended Restrictions No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS

BIO BASIC INC.

20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA TEL: (905) 474 4493, (800) 313 7224 FAX: (905) 474 5794

MATERIAL SAFETY DATA SHEET REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

MANUFACTURER'S NAME: BIO BASIC INC. TEL: (905) 474 4493 FAX: (905) 474 5794 FOR CHEMICAL EMERGENCY: (416) 995 9730

ADDRESS: 20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA

DATE UPDATED: MAY 07, 2014

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

Product Name dCTP, 100mM Solution, pH 7.0

Product Code(s) D0046C

Recommended Use For Further Manufacturing Use Only

Not for Human or Animal Drug Use

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS – Classification

Classification Not classified as a hazard

SECTION 3. ---- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
Cytidine 5`-(tetrahydrogen triphosphate), 2`-deoxy-, tetrasodium salt	EEC No. 223-208-5	Not available	3770-58-9	2.5-10	-

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

InhalationMove to fresh air. If breathing becomes difficult, give oxygenIngestionClean mouth with water and afterwards drink plenty of water.

Notes to Physician Treat symptomatically

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties Not flammable
Flash Point Not determined

Suitable Extinguishing MediaUse extinguishing media appropriate to surrounding fire conditions.

Hazardous Combustion Products

Carbon oxides, Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive
Sensitivity to Static Discharge Not sensitive

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand,

MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure

adequate ventilation

Methods for Containment Prevent further leakage or spillage if safe to do so

Methods for Cleaning Up Absorb on sand or vermiculite and place in closed containers for disposal. Pick up and

transfer to properly labeled containers. Ventilate area and wash spill site after material

pickup is complete.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling Handle in accordance with good industrial hygiene and safety practice. Protect from light.

Storage Keep container tightly closed in a dry and well-ventilated place. Protect from light.

Incompatible Products No information available.

SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - -

Engineering Measures Showers

Eyewash stations Ventilation systems

Personal Protective Equipment

Eye/Face ProtectionTightly fitting safety goggles. **Skin and Body Protection**Wear protective gloves/clothing

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

provided in accordance with current local regulations

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance Clear and cololess

Odor No information available
Odor Threshold No information available
Decomposition Temperature °C No information available
Freezing Point No information available
Initial Boiling Point No information available

Physical State Solution

pH No data available
Flash Point Not determined
Autoignition Temperature No data available
Boiling Point/Range No data available
Melting Point/Range No data available

Flammability Limits in Air Upper No data available Lower No data available

Explosive Properties No information available

Oxidizing Properties No information available

Evaporation Rate

MMHG @ 37.8 C

No data available

Vapor Density

No data available

No data available

No data available

Vapor Density

No data available

Vater-Soluble

Partition Coefficient

No data available

(n-octanol/water)

Viscosity No information available

SECTION 10. ------STABILITY AND REACTIVITY -----

StabilityStable under recommended storage conditionsIncompatible ProductsNone known based on information supplied.Conditions to AvoidNone known based on information supplied.

Hazardous Decomposition Products Carbon oxides. Sulfur oxides.

Hazardous Polymerization Hazardous polymerization does not occur

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute Toxicity

Product Information May cause irritation to eyes, skin and respiratory system.

Chronic Toxicity

Chronic Toxicity No known effect based on information supplied.

Target Organ Effects None known.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

The environmental impact of this product has not been fully investigated.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA Not regulated

DOT Not regulated

SECTION 15. ----- REGULATORY INFORMATION -----

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
Cytidine 5`-(tetrahydrogen triphosphate), 2`-deoxy-, tetrasodium salt	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Cytidine 5`- (tetrahydrogen triphosphate), 2`-deoxy-, tetrasodium salt 3770-58-9 (2.5-10)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA Does not comply

EINECS/ELINCS Complies

ENCS
Does not comply
IECSC
Does not comply
KECL
Does not comply
PICCS
Does not comply
AICS
Does not comply

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico – Grade No information available.

Canada

WHMIS Hazard Class

SECTION 16. ----- OTHER INFORMATION-----

Issuing Date 13-Aug-2009 **Revision Date** 07-May-2014

Revision Note No information available.

Recommended Restrictions No information available

Disclaimer

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End of MSDS

BIO BASIC INC.

20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA TEL: (905) 474 4493, (800) 313 7224 FAX: (905) 474 5794

MATERIAL SAFETY DATA SHEET REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

MANUFACTURER'S NAME: BIO BASIC INC. TEL: (905) 474 4493 FAX: (905) 474 5794 FOR CHEMICAL EMERGENCY: (416) 995 9730

ADDRESS: 20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA

DATE UPDATED: MAY 07, 2014

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

Product Name dGTP, 100mM Solution, pH 7.0

Product Code(s) D0046G

Recommended Use For Further Manufacturing Use Only

Not for Human or Animal Drug Use

Synonyms 2'-Deoxy-Guanosine-5'-TP Solution

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS - Classification

Classification Not classified as a hazard

SECTION 3. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
dGTP, Trisodium, Dihydrate	EEC No. 300-026-5	Not available	93919-41-6	2.5-10	-

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

InhalationMove to fresh air. If breathing becomes difficult, give oxygenIngestionClean mouth with water and afterwards drink plenty of water.

Notes to Physician Treat symptomatically

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties Not flammable
Flash Point Not determined

Suitable Extinguishing MediaUse extinguishing media appropriate to surrounding fire conditions.

Hazardous Combustion Products Carbon oxides, Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive
Sensitivity to Static Discharge Not sensitive

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand,

MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - - -

Personal Precautions Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure

adequate ventilation

Methods for Containment Prevent further leakage or spillage if safe to do so

Methods for Cleaning Up Absorb on sand or vermiculite and place in closed containers for disposal. Pick up and

transfer to properly labeled containers. Ventilate area and wash spill site after material

pickup is complete.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling Handle in accordance with good industrial hygiene and safety practice. Protect from light.

Storage Keep container tightly closed in a dry and well-ventilated place. Protect from light.

Incompatible Products No information available.

SECTION 8. ---- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

Engineering Measures Showers

Eyewash stations Ventilation systems

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Wear protective gloves/clothing

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

provided in accordance with current local regulations

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

Appearance Clear and cololess

Odor No information available
Odor Threshold No information available
Decomposition Temperature °C No information available
Freezing Point No information available
Initial Boiling Point No information available

Physical State Solution

pH No data available
 Flash Point Not determined
 Autoignition Temperature No data available
 Boiling Point/Range No data available
 Melting Point/Range No data available

Flammability Limits in Air Upper No data available Lower No data available

Explosive Properties No information available

Oxidizing Properties No information available

Evaporation Rate

MMHG @ 37.8 C

No data available

Vapor Density

No data available

Specific Gravity

No data available

Water-Soluble

Partition Coefficient

No data available

(n-octanol/water)

Viscosity No information available

SECTION 10. ------STABILITY AND REACTIVITY -----

StabilityStable under recommended storage conditionsIncompatible ProductsNone known based on information supplied.

Conditions to AvoidNone known based on information supplied.

Hazardous Decomposition Products Carbon oxides. Sulfur oxides.

Hazardous Polymerization Hazardous polymerization does not occur

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute Toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Chronic Toxicity

Chronic Toxicity No known effect based on information supplied.

Target Organ Effects None known.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

The environmental impact of this product has not been fully investigated.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA Not regulated

DOT Not regulated

SECTION 15. ----- REGULATORY INFORMATION -----

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
dGTP, Trisodium, Dihydrate	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
dGTP, Trisodium, Dihydrate 93919-41-6 (2.5-10)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA Does not comply

EINECS/ELINCS Complies

ENCS
Does not comply
IECSC
Does not comply
KECL
Does not comply
PICCS
Does not comply
AICS
Does not comply

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico – Grade No information available.

Canada

WHMIS Hazard Class

Not determined

SECTION 16. ----- OTHER INFORMATION-----

Issuing Date 13-Aug-2009 **Revision Date** 07-May-2014

Revision Note No information available.

Recommended Restrictions No information available

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End of MSDS

BIO BASIC INC.

20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA TEL: (905) 474 4493, (800) 313 7224 FAX: (905) 474 5794

MATERIAL SAFETY DATA SHEET REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

MANUFACTURER'S NAME: BIO BASIC INC. TEL: (905) 474 4493 FAX: (905) 474 5794 FOR CHEMICAL EMERGENCY: (416) 995 9730

ADDRESS: 20 KONRAD CRES, MARKHAM ONTARIO L3R 8T4 CANADA

DATE UPDATED: MAY 07, 2014

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

Product Name dTTP, 100mM Solution, pH 7.0

Product Code(s) D0046T

Recommended Use For Further Manufacturing Use Only

Not for Human or Animal Drug Use

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS - Classification

Classification Not classified as a hazard

SECTION 3. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
2-deoxy TTP	-	Not available	18423-43-3	2.5-10	-

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

InhalationMove to fresh air. If breathing becomes difficult, give oxygenIngestionClean mouth with water and afterwards drink plenty of water.

Notes to Physician Treat symptomatically

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties Not flammable
Flash Point Not determined

Suitable Extinguishing MediaUse extinguishing media appropriate to surrounding fire conditions.

Hazardous Combustion Products Carbon oxides, Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive
Sensitivity to Static Discharge Not sensitive

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand,

MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure

adequate ventilation

Methods for Containment Prevent further leakage or spillage if safe to do so

Methods for Cleaning Up Absorb on sand or vermiculite and place in closed containers for disposal. Pick up and

transfer to properly labeled containers. Ventilate area and wash spill site after material

pickup is complete.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling Handle in accordance with good industrial hygiene and safety practice. Protect from light.

Storage Keep container tightly closed in a dry and well-ventilated place. Protect from light.

Incompatible Products No information available.

SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - -

Engineering Measures Showers

Eyewash stations Ventilation systems

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Wear protective gloves/clothing

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

provided in accordance with current local regulations

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

Appearance Clear and cololess

Odor No information available
Odor Threshold No information available
Decomposition Temperature °C No information available
Freezing Point No information available
Initial Boiling Point No information available

Physical State Solution

pH No data available
 Flash Point Not determined
 Autoignition Temperature No data available
 Boiling Point/Range No data available
 Melting Point/Range No data available

Flammability Limits in Air Upper No data available Lower No data available

Explosive Properties No information available

Oxidizing Properties No information available

Evaporation Rate

MMHG @ 37.8 C

No data available

Vapor Density

No data available

No data available

No data available

Vapor Density

No data available

Vater-Soluble

Partition Coefficient

No data available

(n-octanol/water)

Viscosity No information available

SECTION 10. ------STABILITY AND REACTIVITY -----

Stability Stable under recommended storage conditions

Incompatible ProductsNone known based on information supplied.Conditions to AvoidNone known based on information supplied.

Hazardous Decomposition Products Carbon oxides. Sulfur oxides.

Hazardous Polymerization Hazardous polymerization does not occur

SECTION 11. - - - - TOXICOLOGICAL INFORMATION - - - - - -

Acute Toxicity

Product Information May cause irritation to eyes, skin and respiratory system.

Chronic Toxicity

Chronic Toxicity No known effect based on information supplied.

Target Organ Effects None known.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

The environmental impact of this product has not been fully investigated.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA Not regulated

DOT Not regulated

SECTION 15. ----- REGULATORY INFORMATION -----

REACH Title VII RestrictionsNo information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
2-deoxy TTP	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
2-deoxy TTP 18423-43-3 (2.5-10)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico – Grade No information available.

Canada

WHMIS Hazard Class

Not determined

SECTION 16. ----- OTHER INFORMATION-----

Issuing Date 13-Aug-2009 **Revision Date** 07-May-2014

Revision Note No information available.

Recommended Restrictions No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS