

# SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Product Name:** MOPS-SDS Running Buffer (20X)

**Product Number:** EC-867

### 1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

### 1.3 Details of the Supplier of the Safety Data Sheet

#### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30036  
(404) 699-2121  
(800) 526-3867  
info@nationaldiagnostics.com

### 1.4 Emergency Telephone Number

#### ChemTel Inc.

Contract number MIS8894340  
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)  
01-800-099-0731 (Mexico)  
400-120-0751 (China)  
000-800-100-4086 (India)  
1-300-954-583 (Australia)  
0-800-591-6042 (Brazil)  
+1-813-255-3924 (All other regions)

## SECTION 2 - HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H302 - Acute Toxicity-Oral (Category 4)  
H312 - Acute Toxicity-Dermal (Category 4)  
H315 - Skin Corrosion/Irritation (Category 2)  
H319 - Serious Eye Damage/Eye Irritation (Category 2A)  
H332 - Acute Toxicity-Inhalation (Category 4)  
H335 - Specific Target Organ Toxicity, Single Exposure (Category 3)

### 2.2 Label Elements

#### GHS LABEL ELEMENTS AND CLASSIFICATION

##### GHS Label Elements



#### WARNING

H302 - Harmful if swallowed  
H312 - Harmful in contact with skin.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H332 - Harmful if inhaled.  
H335 - May cause respiratory irritation.  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
p264 - Wash hands thoroughly after handling.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses if present and easy to do. Continue rinsing.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixture

#### Chemical Names/Description

Aqueous solution of tris base, sodium dodecyl sulfate and 3-(N-morpholino)propanesulfonic acid.

#### Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Tris-Base	10-15	77-86-1	201-064-4	H315, H319, H335

MOPS	20-25	1132-61-2		H302, H312, H315, H320, H332, H335
SDS	2	151-21-3	205-788-1	H302, H315, H319, H335

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of First Aid Measures

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### Ingestion

Call a physician immediately if significant amounts have been swallowed. Give large amounts of water or milk to drink for dilution effect. Do not induce vomiting.

#### Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

#### Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

#### Inhalation

##### Tris-Base:

Coughing, shortness of breath.

##### MOPS:

No information found.

##### SDS:

Coughing, shortness of breath. May cause allergic reaction in sensitive individuals.

#### Ingestion

##### Tris-Base:

Symptoms may include nausea, vomiting, and diarrhea. Large oral doses may cause weakness, collapse, blood clotting, and coma. The estimated lethal dose of Tris Base is 50 grams dry solid.

##### MOPS:

No information found.

##### SDS:

Nausea and diarrhea.

#### Skin

##### Tris-Base:

Redness, itching, and pain.

##### MOPS:

No information found.

##### SDS:

Causes dryness and a rash on continued exposure.

#### Eyes

##### Tris-Base:

Redness, itching, and pain.

##### MOPS:

No information found.

##### SDS:

Causes redness and pain.

### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

## SECTION 5 - FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use media appropriate to the primary cause of fire.

### 5.2 Special Hazards Arising from the Substance/Mixture Hazardous Combustion Products

Thermal decomposition products may include toxic oxides of nitrogen, carbon and sulfur.

### **Hazardous Decomposition Products**

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides.

### **Hazardous Polymerization**

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### **5.3 Advice for Firefighters**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### **5.4 Further Information**

No data available.

## **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal Precautions**

Wear appropriate protective equipment as specified in Section 8.

### **6.2 Environmental Precautions**

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

### **6.3 Methods and Materials for Containment and Cleaning Up**

Contain and clean up spill immediately, prevent from entering floor drains. Contain liquids using absorbents. Shovel all spill materials into disposal drum. Scrub spill area with detergent, flush with copious amounts of water.

### **6.4 References to Other Sections**

For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

## **SECTION 7 - HANDLING AND STORAGE**

### **7.1 Precautions for Safe Handling**

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

### **7.2 Conditions for Safe Storage (including any incompatibles)**

Keep in a tightly closed container, stored in a cooled, dry, ventilated area.

#### **Incompatibles**

##### **Tris-Base:**

No incompatibility data found.

##### **MOPS:**

Strong oxidizers, strong bases.

##### **SDS:**

Strong oxidizers, acids.

### **7.3 Specific End Uses**

Investigational research by professional users

## **SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS**

### **8.1 Control Parameters**

#### **Component: Tris-Base**

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

#### **Component: MOPS**

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

#### **Component: SDS**

ACGIH Threshold Limit Value (TLV): None established

OSHA Permissible Exposure Limit (PEL): None established

### **8.2 Exposure Controls**

#### **Engineering Controls**

A system of local and/or general exhaust is recommended to keep employee exposures low. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

#### **Respiratory Protection**

For conditions of use where exposure to the dust or mist is apparent, a full-face dust/mist respirator may be worn. For emergencies or

instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

### Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

### Skin Protection

Wear protective gloves and clean body covering clothing.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear, colorless solution	b. Odor	None
c. Odor Threshold	N.A.	d. pH	8-9
e. Melting/Freezing Point (°C)	0	f. Boiling point (°C)	104.4
g. Flash Point (°C)	N.A.	h. Evaporation Rate	1
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	Water	l. Vapor Density (Air = 1)	N.A.
m. Relative Density	1.05	n. Water Solubility	Miscible
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	N.A.
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	No data available.
s. Explosive Properties	N.A.	t. Oxidizing Properties	N.A.

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

No Data

### 10.2 Chemical Stability

Stable under ordinary conditions of use and storage.

### 10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### 10.4 Conditions to Avoid

Heat, incompatibles.

### 10.5 Incompatible Materials

Tris-Base:

No incompatibility data found.

MOPS:

Strong oxidizers, strong bases.

SDS:

Strong oxidizers, acids.

### 10.6 Hazardous Decomposition Products

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Product LD50 Values

#### Oral Rat LD50 (mg/kg)

No data

#### Dermal Rabbit LD50 (mg/kg)

No data

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Tris-Base	No	No	None
MOPS	No	No	No
SDS	No	No	None

### Potential Health Effects

#### Inhalation

**Tris-Base**

Causes irritation to the respiratory tract.

**MOPS**

May cause irritation to the respiratory tract.

**SDS**

Dust causes irritation to the respiratory tract.

**Ingestion****Tris-Base**

Causes irritation and reddening to the mucous membranes of the mouth, esophagus, and gastrointestinal tract.

**MOPS**

No information found, but compound should be handled as a potential health hazard.

**SDS**

Large doses may cause gastrointestinal distress.

**Skin****Tris-Base**

Causes irritation to the skin.

**MOPS**

May cause irritation

**SDS**

Mildly irritating to skin. May cause allergic skin reactions.

**Eyes****Tris-Base**

Causes irritation to the eyes.

**MOPS**

May cause irritation.

**SDS**

Causes irritation to the eyes.

**Carcinogenicity****Tris-Base**

Not listed as a carcinogen by NTP or IARC.

**MOPS**

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**SDS**

Not listed as a known or suspected carcinogen by NTP or IARC.

**Mutagenicity****Tris-Base**

No information found.

**MOPS**

No information available.

**SDS**

Has caused mutagenic effects on laboratory animals.

**Reproductive Toxicity****Tris-Base**

No information found.

**MOPS**

No information available.

**SDS**

Has caused mutagenic effects on laboratory animals.

**Teratogenic Effects****Tris-Base**

No information found.

**MOPS**

No information available.

**SDS**  
No information found.

### Routes of Entry

**Tris-Base**  
Ingestion.

**MOPS**  
No information found.

**SDS**  
No information found.

### Target Organ Statement

**Tris-Base**  
No information available.

**MOPS**  
No information found.

**SDS**  
Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of the substance.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

**COMPONENT: Tris-Base**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	LC50 460mg/l (Golden ide)	EC50: 59.8 mg/L (Daphnia)	EC50: 473mg/l @ 48 hrs	CE50>1000mg/L (3hrs)
	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**COMPONENT: MOPS**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data
	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**COMPONENT: SDS**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	The 96 hr LC50 of dodecyl sulfate to Fathead minnows was 29 mg/L	LC50 (Ceriodaphnia dubia, 48-hr): 5.55 mg/L	EC50>120mg/L	IC50 (3 hrs): 480 mg/L
	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	EC50 (72hr, Cicer arietinum ) 361 mg/L	No data

### 12.2 Persistence and Degradability

**Tris-Base**  
Readily Biodegradable (>97% degradation at 28 days)

**MOPS**  
No data

**SDS**  
Readily biodegradable (>95% degradation in 28 days)

### 12.3 Bioaccumulative Potential

**Tris-Base**  
No data

**MOPS**  
No data

**SDS**

No data

## 12.4 Mobility in Soil

Tris-Base

Log Koc 1.57-1.85

MOPS

No data

SDS

Log Koc 1.545

## 12.5 Results of PBT and vPvB Assessment

Tris-Base

Not a PBT or vPvB

MOPS

No data

SDS

Not PBT vPvB

## 12.6 Other Adverse Effects

Tris-Base

None

MOPS

None

SDS

None

## SECTION 13 - DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

## SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.
14.4 Packing Group	N.A.	N.A.	N.A.	N.A.
14.5 Environmental Hazards	N.A.	N.A.	N.A.	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

## SECTION 15 - REGULATORY INFORMATION

### 15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

#### United States

##### TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

##### SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Tris-Base	No	No	No	Yes	No
MOPS	No	No	No	Yes	No
SDS	No	No	No	Yes	Yes

#### Europe

##### EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

## SECTION 16 - OTHER INFORMATION

### Revisional Updates

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.2

6/26/2013- Released Version 1.0

### NFPA Codes

Health 1 Flammability 0 Reactivity 0

### Dangers

**Tris-Base**

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

**MOPS**

H302 - Harmful if swallowed

H312 - Harmful in contact with skin.

H315 - Causes skin irritation.

H320 - Causes eye irritation.

H332 - Harmful if inhaled.

H335 - May cause respiratory irritation.

**SDS**

H302 - Harmful if swallowed

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

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