



ZYMO RESEARCH
The Beauty of Science is to Make Things Simple

Material Safety Data Sheet

Zymo Research advises each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

Section 1 – Product and Company Information

Reagent/Buffer Name: ZR RNA Buffer
Catalog Number: R1020-1-50, R1020-1-100, R1020-1-200

Company: Zymo Research Corp.
Street Address: 17062 Murphy Ave.
City, State, Zip Code, Country: Irvine, CA 92614 US
Phone: 949-679-1190
Fax: 949-266-9452

Section 2 – Ingredient Information/Composition

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components Name	CAS #	EINEC No.	Formula	Concentration
Sodium Iodide, Anhydrous	7681-82-5	231-679-3	NaI	≤ 4M

Section 3 – Hazard Identification

Emergency Overview: Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

Target Organs: The substance may be toxic to blood, thyroid.

NFPA Ratings (scale 0 - 4) :
Health = 2
Fire = 0
Reactivity = 0

HMIS Ratings (scale 0 – 4) :
Health = 2
Fire = 0
Reactivity = 0

Section 4 – First Aid Measures

In Case of
Eye Contact: Flush contaminated eye(s) with large volumes of water for at least 15 minutes. Get medical attention.

Skin Contact:	Rinse contaminated areas with large volumes water for at least 15 minutes as contaminated clothing is removed. Get medical attention if area remains irritated. Get medical aid if irritation develops or persists. Do not wear contaminated clothing until after it has been properly cleaned.
Ingestion:	Do NOT induce vomiting. Keep victim warm and calm. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Inhalation:	Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration. Get medical aid if cough or other symptoms appear.

Section 5 – Fire Fighting Measures

Extinguishing Media:	Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Do NOT get water inside containers.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent), and protective garments. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use extinguishing media appropriate to the surrounding fire. Perchloric acid ignites with sodium iodide. When heated to decomposition it emits toxic fumes of iodine and sodium oxide.

Section 6 – Accidental Release Measures

General Information:	Wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent), safety goggles, rubber boots, and heavy rubber gloves.
Spills / Leaks:	Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation. Place under an inert atmosphere. Do not get water inside containers.

Section 7 – Handling and Storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store protected from light. Handle under an inert atmosphere. Store protected from air. Keep from contact with moist air and steam.
Storage:	Store tightly closed at Room Temperature and protect from sunlight. Do not store in direct sunlight. Store in a tightly closed container. Do not expose to air. Store under an inert atmosphere.

Section 8 – Exposure Controls / Personal Protection

Wear appropriate NIOSH / MSHA-Approved respirator, chemical resistant gloves, chemical safety goggles. Safety shower and eye both. Mechanical exhaust required. Keep tightly closed. Wash thoroughly after handling. Do not get in contact with eyes, skin or on clothing. Do not inhale vapor. Severe eye irritant.

Section 9 – Physical and Chemical Properties

Physical States / Form:	Liquid
Color:	Colorless
Freezing/Melting Point:	661°C
Vapor Density:	N/A
Evaporation Rate:	N/A
Viscosity:	N/A
Boiling Point:	1300°C at 760.00mm Hg

Solubility:	Easily soluble in cold water, hot water. Soluble in acetone.
Decomposition Temperature:	N/A
Specific/Gravity/Density:	3.6670 g/cm ³
Molecular Weight:	149.89

Section 10 – Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions To Avoid:	Incompatible materials, light, moisture, exposure to air, contact with water, strong oxidants.
Substances To Be Avoided:	Strong oxidizing agents, acids.
Hazardous, Combustion, Or Decomposition Products:	Irritating and toxic fumes and gases, hydrogen iodide, sodium oxide, iodine.
Hazardous Polymerization:	Has not been reported.

Section 11 – Toxicological Information

CAS No. :	7681-82-5
RTECS No. :	WB6475000
Toxicity Data:	Oral Mouse LD50: 1,000 mg/kg Oral Rat LD50: 4,340 mg/kg Intravenous Rat LD50: 1,060 mg/kg
Carcinogenicity:	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:	No information available.
Teratogenicity:	See RTECS for actual entry.
Reproductive Effects:	See RTECS for actual entry.
Neurotoxicity:	No information available.
Mutagenicity:	No information available.
Other Studies:	No data available.
Additional Information:	The product should be handled with the normal caution accorded to chemical handling. Additional harmful properties cannot be ruled out.

Section 12 – Ecological Information

Ecotoxicity:	Not available
Environmental Fate:	This chemical is expected to cause little oxygen depletion in aquatic systems. This chemical is not likely to bioconcentrate. Long term degradation products may arise. The product itself and its products of degradation are not toxic.
Physical/Chemical:	Not available

Section 13 – Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 – Transport Considerations

US DOT:	Not a DOT controlled material.
IMO:	Not regulated as a hazardous material.
IATA:	Not regulated as a hazardous material.
RID/ADR:	Not regulated as a hazardous material.
Canadian TDG:	No information available.

Section 15 – Regulatory Information

TSCA:	CAS No.: 7681-82-5	Listed on the TSCA inventory.
OSHA:		Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
California No Significant Risk Level:		None of the chemicals in this product are listed.
European/International Regulations		
Hazard Symbols:		Not available
DSCL (EEC):		R36/38- Irritating to eyes and skin. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37- Wear suitable gloves.
WGK (Water Danger / Protection):		CAS No.: 7681-82-5: 1
Other Regulations		Canada: Listed on Canada's DSL List. This product has a WHMIS Classification of D2A. Listed on Canada's Ingredient Disclosure List. China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.

Section 16 – Other Information

The above information is believed to be correct, but does not purport to be all-inclusive and should be used only as a guide. Zymo Research shall not be held liable for any damage or other consequences 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. In no way shall Zymo Research be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Zymo Research has been advised or the possibility of such damages. All materials supplied by Zymo Research Corp are intended to be used by trained professionals and are for research use only.



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Section 1 – Product and Company Information

Reagent/Buffer Name: RNA Pre-Wash Buffer (Component A)
Catalog Number: R1020-2-12, R1020-2-25, R1020-2-50, R1020-2-100

Company: Zymo Research Corp.
Street Address: 17062 Murphy Ave.
City, State, Zip Code, Country: Irvine, CA 92614 US
Phone: 949-679-1190
Fax: 949-266-9452

Section 2 – Ingredient Information/Composition

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components Name	CAS #	Formula	Percent
Ethanol 190 Proof, Ethanol, Undenatured; Ethyl Alcohol, Anhydrous	Mixture [Ethanol 200 Proof (95%): 64-17-5, Water (5%):7732-18-5]	N/A	25%

Section 3 – Hazard Identification

NFPA Ratings (scale 0 - 4) : Health = 1
Fire = 3
Reactivity = 0

HMIS Ratings (scale 0 – 4) : Health = 1
Fire = 3
Reactivity = 0

Hazard Category: Acute, Chronic, Fire

Hazardous Identification Information: Poison. Danger. Flammable. May be fatal if swallowed. Vapor harmful. Harmful if inhaled or absorbed through skin. Affects Nervous Central System. Causes eyes, skin and respiratory tract irritation. May affect liver, blood, reproductive system.

Route(s) of Entry: Inhalation, eye, ingestion, skin

Acute and Chronic Health Hazards: Ingestion: Can cause nausea, vomiting, intoxication, depression of the Central Nervous System, diarrhea. In acute cases can cause death.
Inhalation: May cause irritation to the mucous membranes of the upper respiratory tract.

Eyes: Liquid and vapor may cause irritation. Splashes may cause temporary pain and blurred vision.
Skin: On prolonged contact, may cause irritation, cracking, flaking and defatting of skin.

Section 4 – First Aid Measures

In Case of Eye Contact:	Flush contaminated eye(s) with large volumes of water for at least 15 minutes. Get medical attention.
Skin Contact:	Rinse contaminated areas with large volumes of water for at least 15 minutes as contaminated clothing is removed. Get medical attention if area remains irritated. Do not wear contaminated clothing until after it has been properly cleaned.
Ingestion:	If conscious, have victim drink water or milk to dilute. Do NOT induce vomiting unless directed to do so by medical personnel. Get medical aid immediately. Never give anything by mouth to an unconscious person.
Inhalation:	Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop-give artificial respiration. Get medical aid if cough or other symptoms appear.

Section 5 – Fire Fighting Measures

Flash Point:	16.66 °C (61.99 °F)
Lower Explosive Limit:	3.3 vol %
Upper Explosive Limit:	19.0 vol %
Extinguishing Media:	Use alcohol foam, dry chemical, CO ₂ . Water may be ineffective, but should be used to keep fire-exposed container cool.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus and protective garments to prevent contact with skin and eyes.
Fire Hazards in Presence of Various Substances:	Highly flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials. Non-flammable in presence of shocks, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.
Products of Combustion:	These products are carbon oxides (CO, CO ₂).
Explosion Hazards:	Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Containers may explode in the heat of a fire.

Section 6 – Accidental Release Measures

Spills / Leaks:	Ventilate area. Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors. Wear appropriate personal protective equipment.
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Section 7 – Handling and Storage

Handling:	Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.
Storage:	Keep container tightly closed in a cool, dry, and well-ventilated place. Keep away from heat, sparks, and flame.

Section 8 – Exposure Controls / Personal Protection

Wear appropriate approved/certified respirator. Chemical resistant gloves. Chemical safety goggles. Lab coat. Safety shower and eye both. Mechanical exhaust required. Keep tightly closed. Wash thoroughly after handling. Do not get in contact with eyes, skin or on clothing. Do not inhale vapor. Severe eye irritant.

Chemical Name	OSHA - Final PELs	ACGIH	NIOSH
Ethyl alcohol	1000 ppm TWA; 1900 mg/m ³ TWA	1000 ppm TWA	1000 ppm TWA; 1900 mg/m ³ TWA 3300 ppm IDLH
Water	none listed	none listed	none listed

Section 9 – Physical and Chemical Properties

Physical States / Form:	Liquid
Color:	Colorless
Odor:	Mild
Melting/Freezing Point:	-114.1 °C
Boiling Point:	78 °C
Flashpoint:	16.66 °C (61.99 °F)
Vapor Pressure:	59.3 mm Hg at 25 °C
pH:	Not available
Specific Gravity:	0.790 at 20°C
Solubility In Water:	Miscible

Section 10 – Stability and Reactivity

Chemical Stability:	Stable.
Conditions To Avoid:	Incompatible materials, ignition sources, excess heat, oxidizers.
Substances To Be Avoided:	Strong oxidants, hydrazine, alkali metals, peroxides, silver salts, acid chlorides, metal hydrates, and others.
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide.
Hazardous Polymerization:	Will not occur.

Section 11 – Toxicological Information

LD50 Oral Rat:	7060 mg/kg
LC50 Inhalation Rat:	20,000ppm/10H
LD50 Oral Rabbit:	6300 mg/kg
Carcinogenicity:	Not listed by ACGIH, IARC, NTP, or CA Prop 65
Reproductive Effects:	Ethanol has been linked to birth defects in humans.

Section 12 – Ecological Information

Water:	Does not bioaccumulate, readily biodegrades, evaporates to modern extent.
Soil:	Leaches into groundwater, readily biodegrades, quickly evaporates.
Air:	Readily degrades by reaction with photochemically produced hydroxyl radicals. Readily removed by dry and wet deposition.

Section 13 – Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 – Transport Considerations

Domestic (Land, DOT):	Shipping Name: Ethanol Hazard Class: 3 UN/NA: UN3065 Packing Group: II
International (Water, I.M.O.):	Shipping Name: Ethanol Hazard Class: 3.2 UN/NA: UN3065 Packing Group: II

Section 15 – Regulatory Information

Federal and State Regulations

TSCA Inventory:	CAS# 64-17-5: Listed CAS# 7732-18-5: Listed
Health & Safety Reporting List:	None
Chemical Test Rules:	None
Section 12b:	None
TSCA Significant New Use Rule:	None
CERCLA Hazardous Substances and corresponding RQs:	None
SARA Section 302:	None
SARA Codes:	CAS # 64-17-5: acute, chronic, flammable
Section 313:	None
Clean Air Act:	Hazardous air pollutants: None Class 1 Ozone Depletors: None Class 2 Ozone Depletors: None
Clean Water Act:	Hazardous Substances: None Priority Pollutants: None Toxic Pollutants: None
OSHA:	None

STATE: CAS# 64-17-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65: WARNING: This product contains Ethyl alcohol, a chemical known to the state of California to cause developmental reproductive toxicity.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

Hazard Symbols: F

Risk Phrases: R11

Safety Phrases: S16, S7

Canada - DSL/NDL: CAS# 64-17-5: Listed
CAS# 7732-18-5: Listed

Canada – WHMIS: WHMIS classification of B2, D2A.

Canadian Ingredient Disclosure List: CAS# 64-17-5: Listed

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Section 1 – Product and Company Information

Reagent/Buffer Name: RNA Pre-Wash Buffer (Component B)
Catalog Number: R1020-2-12, R1020-2-25, R1020-2-50, R1020-2-100

Company: Zymo Research Corp.
Street Address: 17062 Murphy Ave.
City, State, Zip Code, Country: Irvine, CA 92614 US
Phone: 949-679-1190
Fax: 949-266-9452

Section 2 – Ingredient Information/Composition

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components Name	CAS #	Formula	Percent
Isopropanol	67-63-0	CH ₃ CH(OH)CH ₃	25%

Section 3 – Hazard Identification

Emergency Overview: Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant, sensitizer, permeator), of ingestion.

Target Organs: The substance may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

NFPA Ratings (scale 0 - 4) : Health = 1
Fire = 3
Reactivity = 0

HMIS Ratings (scale 0 – 4) : Health = 2
Fire = 3
Physical Hazard = 0

Section 4 – First Aid Measures

In Case of
Eye Contact: Flush contaminated eye(s) with large volumes of water for at least 15 minutes. Get medical attention if eye(s) remain irritated.

Skin Contact:	Flush contaminated areas with large volumes of water and wash with soap for at least 15 minutes as contaminated clothing are removed. Get medical attention if area remains irritated. Do not wear contaminated clothing until after it has been properly cleaned.
Ingestion:	Wash the mouth out with water if the person is conscious. Get immediate medical attention.
Inhalation:	Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration. Get medical attention.

Section 5 – Fire Fighting Measures

Flammability:	Flammable.
Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam.
Products of Combustion:	Carbon oxides (CO, CO ₂).
Fire Hazards	Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of oxidizing materials. Non-flammable in presence of shocks.
Explosion Hazards	Explosive in presence of open flames and sparks, of heat.
Unusual Fire And Explosion Hazards:	Vapor may travel considerable distance to source of ignition and flash back. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME. When heated to decomposition it emits acrid smoke and fumes.

Section 6 – Accidental Release Measures

Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and heavy rubber gloves. Absorb with an inert dry material and place in an appropriate waste disposal container. Use non-sparking tools. Ventilate area and wash spill site after material pickup is complete. Keep away from heat. Keep away from sources of ignition.

Section 7 – Handling and Storage

Handling:	Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment.
Storage:	Store tightly closed in a cool, well-ventilated area. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material.

Section 8 – Exposure Controls / Personal Protection

Wear appropriate NIOSH / MSHA-Approved respirator, chemical resistant gloves, chemical safety goggles. Safety shower and eye bath. Mechanical exhaust required. Keep tightly closed. Use nonsparking tools. Wash contaminated clothing before reuse. Avoid prolonged or repeated exposure. Store in a cool dry place. Keep away from heat, sparks, and open flame. Wash thoroughly after handling. Do not get in contact with eyes, skin or on clothing. Do not inhale vapor. Severe eye irritant.

Exposure Limits:	TWA: 400 STEL: 500 (ppm) from OSHA (PEL) [United States] TWA: 980 STEL: 1225 (mg/m ³) from OSHA (PEL) [United States] TWA: 200 STEL: 400 (ppm) from ACGIH (TLV) [United States] [1999]
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Section 9 – Physical and Chemical Properties

Boiling Point:	82.3°C
Melting Point:	-88.5°C (-127.3°F)
Freezing Point:	-89°C - -86°C
Auto-ignition Temperature:	399°C (750.2°F)

Flash Point:	Closed Cup: 11.667°C (53°F) - 12.778 °C (55 °F) (TAG)
Vapor Density:	2.07
Vapor Pressure:	4.4 kPa (at 20°C)
Evaporation Rate (Butyl Acetate=1):	1.44
Solubility In Water:	Fully miscible
Specific Gravity (Water=1):	0.787

Section 10 – Stability and Reactivity

Stability:	Stable.
Substances To Be Avoided:	Reactive with oxidizing agents, acids, alkalis.
Conditions To Avoid:	Heat, Ignition sources, incompatible materials
Hazardous, Combustion, Or Decomposition Products:	Unknown.
Hazardous Polymerization:	Will not occur.

Section 11 – Toxicological Information

Acute Effects

Inhalation:	May be harmful by inhalation. Material is irritating to mucous membranes and upper respiratory tract.
Eye Contact:	Causes severe eye irritation.
Skin Contact:	Causes skin irritation, harmful if absorbed through skin.
Ingestion:	Harmful if swallowed.
Other:	Can cause CNS depression. Narcotic effect. Damage to the heart.

Toxicity Data:

Route	Organism	Dose
Oral	Human	LD50 = 5-15 g/kg
Oral	Rat	LD50 = 5,045 mg/kg acute
Skin	Rabbit	LD50 = 12,800 mg/kg acute
Oral	Mouse	LD50 = 3,600 mg/kg
Inhalation	Rat	LC50 = 16,000 ppm (8 hour) acute

RTECS Number: NT8050000

Additional Information: The product should be handled with the normal caution accorded to chemical handling. Additional harmful properties cannot be ruled out.

Section 12 – Ecological Information

Not available.

Section 13 – Disposal Considerations

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Section 14 – Transport Considerations

US DOT: CLASS 3: Flammable liquid.
UNNA: 1219 : Isopropyl Alcohol PG: II

Section 15 – Regulatory Information

TSCA : TSCA 8(b) inventory: Isopropyl alcohol
TSCA 4(a) final testing order: Isopropyl alcohol
TSCA 8(a) IUR: Isopropyl alcohol
TSCA 8(d) H and S data reporting: Isopropyl alcohol: Effective date: 12/15/86 Sunset Date: 12/15/96
TSCA 12(b) one time export: Isopropyl alcohol

SARA: SARA 313 toxic chemical notification and release reporting: Isopropyl alcohol

California Proposition 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.

This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No.200-661-7).

WHMIS Classification: B2, D2B

Other Regulatory Requirement: DSL list

DSCL (EEC): R11- Highly flammable.
R36- Irritating to eyes.
R67- Vapors may cause drowsiness and dizziness.
S7- Keep container tightly closed.
S16- Keep away from sources of ignition – No smoking.
S24/25- Avoid contact with skin and eyes.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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Section 1 – Product and Company Information

Reagent/Buffer Name: RNA Wash Buffer
Catalog Number: R1003-3-6, R1003-3-12, R1003-3-24, R1003-3-48

Company: Zymo Research Corp.
Street Address: 17062 Murphy Ave.
City, State, Zip Code, Country: Irvine, CA 92614 US
Phone: 949-679-1190
Fax: 949-266-9452

Section 2 – Ingredient Information/Composition

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components Name	CAS #	EINEC No.	Formula	Percent
Tris(hydroxymethyl)aminomethane / Hydrochloric Acid	1185-53-1	214-684-5	C ₄ H ₁₁ NO ₃ .HCL	≤ 1%
Ethylenediaminetetraacetic Acid, pH 8.0	6381-92-6	205-358-3	C ₁₀ H ₁₄ N ₂ Na ₂ O ₈ •2H ₂ O	≤ 1%

According to the OSHR 29 CFR§1910_1200, a mixture that contains less than one percent by weight or volume of a non-carcinogenic hazardous component is not considered hazardous, unless there is evidence to the contrary. We do not consider this product to be hazardous; however we recommend the use of gloves, lab coats and eye protection when working with these or any chemical reagents.

Section 3 – Hazard Identification

NFPA Ratings (scale 0 - 4) : Health = 0
Fire = 0
Reactivity = 0

HMIS Ratings (scale 0 – 4) : Health = 0
Fire = 0
Reactivity = 0

OSHA Hazard: No known OSHA hazards

Potential Acute Health Effects: Eyes: May cause eye irritation.
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion: May be harmful if swallowed.
Skin: May be harmful if absorbed through skin. May cause skin irritation.

Section 4 – First Aid Measures

In Case of	
Eye Contact:	Flush contaminated eye(s) with large volumes of water for at least 15 minutes. Get medical attention if eye(s) remain irritated.
Skin Contact:	Wash contaminated areas with large volumes of soap and water.
Ingestion:	Wash out mouth with water provided person is conscious.
Inhalation:	Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration.

Section 5 – Fire Fighting Measures

Extinguishing Media:	Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus and protective garments to prevent contact with skin and eyes.

Section 6 – Accidental Release Measures

General Information:	Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and heavy rubber gloves. Avoid breathing vapors, mist or gas.
Spills / Leaks:	Keep in suitable, closed containers for disposal.

Section 7 – Handling and Storage

Storage:	Store tightly closed in a dry and well-ventilated place.
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Section 8 – Exposure Controls / Personal Protection

Whenever workplace conditions warrant a respirator use, wear tested and approved NIOSH (US) or CEN (EU) respirators and components. Wear protective gloves and safety goggles. Provide safety shower and eyewash station. Keep tightly closed. Wash thoroughly after handling.

Section 9 – Physical and Chemical Properties

Physical States / Form:	Liquid
Color:	Colorless
pH-Factor:	(20°C) 8.0
Specific Gravity:	(20°C) 0.990 g/cm ²
Solubility In Water:	(20°C) Soluble

Section 10 – Stability and Reactivity

Substances To Be Avoided:	Strong oxidizing agents.
Hazardous, Combustion, Or Decomposition Products:	Hazardous decomposition products formed under fire conditions. Nature of decomposition products not known.

Section 11 – Toxicological Information

Acute Effects	
Inhalation:	May be harmful by inhalation. May cause respiratory tract irritation.
Eye Contact:	May cause eye irritation.
Skin Contact:	May cause skin irritation. May cause skin irritation.
Ingestion:	May be harmful if swallowed.
Signs and Symptoms of Exposure:	Caution! The toxicological properties of this mixture have not been fully investigated. Follow good laboratory practices when handling.
RTECS Number:	Mixture not listed.
Additional Information:	The product should be handled with the normal caution accorded to chemical handling. Additional harmful properties cannot be ruled out.

Section 12 – Ecological Information

No information available.

Section 13 – Disposal Considerations

Observe all federal, state, and local environmental regulations.

Section 14 – Transport Considerations

DOT Regulations:	Not dangerous goods. Not regulated.
IMDG:	Not dangerous goods. Not regulated.
IATA:	Not dangerous goods. Not regulated.

Section 15 – Regulatory Information

SARA:	
Section 302	No products were found.
Section 313	No products were found.
SARA 311/312 Hazards	No SARA Hazards.
California Prop. 65 Components:	This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.
OSHA Hazards:	No known OSHA hazards.
DSL Status:	All components of this product are on the Canadian DSL list.

Section 16 – Other Information

The above information is believed to be correct, but does not purport to be all-inclusive and should be used only as a guide. Zymo Research shall not be held liable for any damage or other consequences 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. In no way shall Zymo Research be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Zymo Research has been advised or the possibility of such damages. All materials supplied by Zymo Research Corp are intended to be used by trained professionals and are for research use only.



ZYMO RESEARCH
The Beauty of Science is to Make Things Simple

Material Safety Data Sheet

Zymo Research advises each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

Section 1 – Product and Company Information

Reagent/Buffer Name: DNase/RNase Free Water
Catalog Number: W1001-1, W1001-4, W1001-6, W1001-10

Company: Zymo Research Corp.
Street Address: 17062 Murphy Ave.
City, State, Zip Code, Country: Irvine, CA 92614 US
Phone: 949-679-1190
Fax: 949-266-9452

Section 2 – Ingredient Information/Composition

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components Name	CAS #	Formula	Concentration
N/A	N/A	N/A	N/A

According to the OSHR 29 CFR§1910_1200, a mixture that contains less than one percent by weight or volume of a non-carcinogenic hazardous component is not considered hazardous, unless there is evidence to the contrary. We do not consider this product to be hazardous; however we recommend the use of gloves, lab coats and eye protection when working with these or any chemical reagents.

Section 3 – Hazard Identification

Not applicable.

Section 4 – First Aid Measures

In Case of
Eye Contact: Not applicable.
Skin Contact: Not applicable.
Ingestion: Not applicable.
Inhalation: Not applicable.

Section 5 – Fire Fighting Measures

Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.
Special Fire Fighting Procedures:	No special measures required.

Section 6 – Accidental Release Measures

Non-hazardous material. Clean up of spills requires no special equipment or procedures.

Section 7 – Handling and Storage

Handling:	No special requirements.
Storage:	No special requirements.

Section 8 – Exposure Controls / Personal Protection

No special precautions required.

Section 9 – Physical and Chemical Properties

Physical States / Form:	Liquid
Color:	Colorless
Boiling Point:	100°C (212°F)
Melting Point:	0°C (32°F)
Solubility In Water:	Soluble

Section 10 – Stability and Reactivity

Stability:	Stable
Substances To Be Avoided:	None
Hazardous, Combustion, Or Decomposition Products:	None

Section 11 – Toxicological Information

Acute Effects	
Inhalation:	N/A
Eye Contact:	N/A
Skin Contact:	N/A
Ingestion:	N/A
Prolonged Exposure:	N/A
Chronic Effects:	N/A

Section 12 – Ecological Information

No information available.

Section 13 – Disposal Considerations

If material becomes contaminated during use, dispose of accordingly. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 – Transport Considerations

No information available.

Section 15 – Regulatory Information

No information available.

Section 16 – Other Information

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