



**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:** ADB-Buffer™ (Agarose Dissolving Buffer)  
**Catalog Number:** D4001-1-50, D4001-1-100

**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 #	EINEC No.	Formula	Concentration
Sodium Iodide, Anhydrous	7681-82-5	231-679-3	NaI	≤ 2M

### 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.

<b>Skin Contact:</b>	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.
<b>Ingestion:</b>	Do NOT induce vomiting. Keep victim warm and calm. Never give anything by mouth to an unconscious person. Get immediate medical attention.
<b>Inhalation:</b>	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

<b>Extinguishing Media:</b>	Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Do NOT get water inside containers.
<b>Special Fire Fighting Procedures:</b>	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

<b>General Information:</b>	Wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent), safety goggles, rubber boots, and heavy rubber gloves.
<b>Spills / Leaks:</b>	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

<b>Handling:</b>	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.
<b>Storage:</b>	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

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

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

## Section 10 – Stability and Reactivity

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

## Section 11 – Toxicological Information

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

## Section 12 – Ecological Information

<b>Ecotoxicity:</b>	Not available
<b>Environmental Fate:</b>	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.
<b>Physical/Chemical:</b>	Not available

## Section 13 – Disposal Considerations

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

## Section 14 – Transport Considerations

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

## Section 15 – Regulatory Information

<b>TSCA:</b>	CAS No.: 7681-82-5	Listed on the TSCA inventory.
<b>OSHA:</b>		Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
<b>California No Significant Risk Level:</b>		None of the chemicals in this product are listed.
<b>European/International Regulations</b>		
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:** DNA Wash Buffer  
**Catalog Number:** D4003-2-6, D4003-2-24, D4003-2-48, D4004-W-L

**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 <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> .HCL	≤ 1%
Ethylenediaminetetraacetic Acid, pH 8.0	6381-92-6	205-358-3	C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> Na <sub>2</sub> O <sub>8</sub> •2H <sub>2</sub> 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	
<b>Eye Contact:</b>	Flush contaminated eye(s) with large volumes of water for at least 15 minutes. Get medical attention if eye(s) remain irritated.
<b>Skin Contact:</b>	Wash contaminated areas with large volumes of soap and water.
<b>Ingestion:</b>	Wash out mouth with water provided person is conscious.
<b>Inhalation:</b>	Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration.

## Section 5 – Fire Fighting Measures

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

## Section 6 – Accidental Release Measures

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

## Section 7 – Handling and Storage

<b>Storage:</b>	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

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

## Section 10 – Stability and Reactivity

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

## Section 11 – Toxicological Information

<b>Acute Effects</b>	
<b>Inhalation:</b>	May be harmful by inhalation. May cause respiratory tract irritation.
<b>Eye Contact:</b>	May cause eye irritation.
<b>Skin Contact:</b>	May cause skin irritation. May cause skin irritation.
<b>Ingestion:</b>	May be harmful if swallowed.
<b>Signs and Symptoms of Exposure:</b>	Caution! The toxicological properties of this mixture have not been fully investigated. Follow good laboratory practices when handling.
<b>RTECS Number:</b>	Mixture not listed.
<b>Additional Information:</b>	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

<b>DOT Regulations:</b>	Not dangerous goods. Not regulated.
<b>IMDG:</b>	Not dangerous goods. Not regulated.
<b>IATA:</b>	Not dangerous goods. Not regulated.

## Section 15 – Regulatory Information

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

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