



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

1 Identification

- **Product identifier**
- **Trade name:** Direct-zol Binding Buffer
- **Article number:** R2100-1-5, R2100-1-10, R2100-1-20
- **Application of the substance / the mixture** Laboratory Reagent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Zymo Research Corp.
17062 Murphy Ave.
Irvine, CA 92614
USA
Phone: 1-949-679-1190 or 1-888-882-9682
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS07
- **Signal word** Warning
- **Hazard statements**
Causes skin irritation.
Causes serious eye irritation.
- **Precautionary statements**
Wear protective gloves / eye protection / face protection.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.

(Contd. on page 2)



Safety Data Sheet acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 1)

- Classification system:
NFFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

- HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

- Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

Trade Secret 002-2100

≤10%

4 First-aid measures

- Description of first aid measures
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing: Do not induce vomiting; immediately call for medical help.
Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** Wear protective clothing.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:
None of the ingredients is listed.

· PAC-2:
None of the ingredients is listed.

· PAC-3:
None of the ingredients is listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
No special precautions are necessary if used correctly. Avoid breathing dust, vapor, mist or gas. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** Laboratory reagent

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 4)



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 3)

- Control parameters
Components with limit values that require monitoring at the workplace:
Additional information:
Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Breathing equipment:
Protection of hands:
Material of gloves
Penetration time of glove material
Eye protection:

9 Physical and chemical properties

- Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Color: Clear
Odor: Mild
Odor threshold: Not determined.
pH-value: Not determined.
Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 142 °C (288 °F)
Flash point: Not applicable.
Flammability (solid, gaseous): Not applicable.
Ignition temperature:
Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.

(Contd. on page 5)



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 4)

Table with hazard information: Danger of explosion, Explosion limits, Vapor pressure at 20 °C (68 °F), Density, Relative density, Vapor density, Evaporation rate, Solubility in / Miscibility with Water, Partition coefficient (n-octanol/water), Viscosity, Solvent content, Other information.

10 Stability and reactivity

- Reactivity: No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
Acute toxicity
Primary irritant effect:
on the skin: No irritant effect.
on the eye: No irritating effect.
Sensitization: No sensitizing effects known.

(Contd. on page 6)



Safety Data Sheet acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 5)

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

- Aquatic toxicity: No further relevant information available.
Persistence and degradability: No further relevant information available.

Behavior in environmental systems:

- Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground.

Results of PBT and vPvB assessment

- PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation:

Dispose of contents in accordance with local/regional/national, and international recommendations.

Uncleaned packagings:

Recommendation:

Dispose of container in accordance with local/regional/national and international recommendations.

- Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number

DOT, ADN, IMDG, IATA not regulated

(Contd. on page 7)



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 6)

· <i>UN proper shipping name</i> · <i>DOT, ADN, IMDG, IATA</i>	not regulated
· <i>Transport hazard class(es)</i> · <i>DOT, ADN, IMDG, IATA</i> · <i>Class</i>	not regulated
· <i>Packing group</i> · <i>DOT, IMDG, IATA</i>	not regulated
· <i>Environmental hazards:</i>	Not applicable.
· <i>Special precautions for user</i>	Not applicable.
· <i>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</i>	Not applicable.
· <i>UN "Model Regulation":</i>	not regulated

15 Regulatory information

· *Safety, health and environmental regulations/legislation specific for the substance or mixture*
· *Sara*

· *Section 355 (extremely hazardous substances):*
None of the ingredients is listed.

· *Section 313 (Specific toxic chemical listings):*
None of the ingredients is listed.

· *TSCA (Toxic Substances Control Act):*
All ingredients are listed.

· *Proposition 65*

· *Chemicals known to cause cancer:*
None of the ingredients is listed.

· *Chemicals known to cause reproductive toxicity for females:*
None of the ingredients is listed.

· *Chemicals known to cause reproductive toxicity for males:*
None of the ingredients is listed.

· *Chemicals known to cause developmental toxicity:*
None of the ingredients is listed.

· *Carcinogenic categories*

· *EPA (Environmental Protection Agency)*
None of the ingredients is listed.

(Contd. on page 8)

**Safety Data Sheet**
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 7)

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).**· Hazard pictograms** GHS07**· Signal word** Warning**· Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

· Precautionary statements

Wear protective gloves / eye protection / face protection.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS:

Zymo Research Corp.

Safety Department

17062 Murphy Ave.

Irvine, CA 92614

USA

Phone: 1-949-679-1190 or 1-888-882-9682

· Contact: sds@zymoresearch.com**· Date of preparation / last revision** 02/16/2017 / -**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

(Contd. on page 9)



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

Page 9/9

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/16/2017

Reviewed on 02/03/2016

Trade name: Direct-zol Binding Buffer

(Contd. of page 8)

vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

US