

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/17/2015

Reviewed on 06/17/2015

1 Identification

- **Product identifier**
- **Trade name:** ReadyPrep™ TBP Reducing Agent
- **Catalog or product number:** 1632101, 1632101EDU, 9703632
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
(510)741-1000
- **Information department:**
Technical services, customer support
lsg_techserv_us@bio-rad.com
- **Emergency telephone number:**
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.
510-741-1000

2 Hazard(s) identification

- **Classification of the substance or mixture**
Skin Irrit. 2 H315 Causes skin irritation.
Eye Dam. 1 H318 Causes serious eye damage.
Repr. 1B H360 May damage fertility or the unborn child.
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
N-methyl-2-pyrrolidone
tributylphosphine
- **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H360 May damage fertility or the unborn child.
H335 May cause respiratory irritation.
- **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves.

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P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a poison center/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Additional information: Contact with acids may cause release of toxic gases

- Other hazards

- Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Substances

- CAS No. Description:

872-50-4 N-methyl-2-pyrrolidone

- Identification number(s):

- EC number: 212-828-1

- Index number: 606-021-00-7

- Chemical characterization: Mixtures

- Description: Mixture of the substances listed below with non-hazardous additions.

- Listing of dangerous and non-hazardous components:

872-50-4	N-methyl-2-pyrrolidone	50-100%
998-40-3	tributylphosphine	2.5-5%

- Additional information For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

- Description of first aid measures

- After inhalation Supply fresh air; consult doctor in case of complaints.

- After eye contact Rinse opened eye for several minutes under running water.

- After swallowing Induce vomiting and 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.

- Special hazards arising from the substance or mixture No further relevant information available.

- Advice for firefighters

- Protective equipment: No special measures required.

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** 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.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **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:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

872-50-4 N-methyl-2-pyrrolidone

WEEL ()	10 ppm
	Skin

- **Ingredients with biological limit values:**

872-50-4 N-methyl-2-pyrrolidone

BEI ()	100 mg/L Medium: urine Time: end of shift Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone
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- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment**

- **General protective and hygienic measures** Wash hands before breaks and at the end of work.

- **Breathing equipment:** Not required.

- **Protection of hands:** Protective gloves.

- **Material of gloves** Synthetic gloves

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· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

* 9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Liquid

Color: Colorless

Odor: Amine-like

Odour threshold: Not determined.

pH-value: Not determined.

· Change in condition

Melting point/Melting range: -24 °C

Boiling point/Boiling range: undetermined

· Flash point: Not applicable

· Flammability (solid, gaseous) Not applicable.

· Ignition temperature: 270 °C

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower: 1.3 Vol %

Upper: 9.5 Vol %

· Vapor pressure at 20 °C: 0.29 hPa

· Density at 20 °C: 1.013 g/cm³

· Relative density Not determined.

· Vapour density Not determined.

· Evaporation rate Not determined.

· Solubility in / Miscibility with

Water: Fully miscible

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

dynamic: Not determined.

kinematic: Not determined.

· Solvent content:

Organic solvents: 95.8 %

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- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **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:**

- **LD/LC50 values for hazardous components per OSHA criteria:**

872-50-4 N-methyl-2-pyrrolidone

Oral	LD50	3600 mg/kg (rat)
Dermal	LD50	8000 mg/kg (rbt)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong caustic effect.

- **Sensitization:** No sensitizing effects known.
- **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 1 (German Regulation) (Self-assessment): slightly hazardous for water.

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- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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**
Hand over to hazardous waste disposers.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

• UN-Number	
• DOT, ADR, ADN, IMDG, IATA	Void
• UN proper shipping name	
• DOT, ADR, ADN, IMDG, IATA	Void
• Transport hazard class(es)	
• DOT, ADR, ADN, IMDG, IATA	Void
• Class	Void
• Packing group	
• DOT, ADR, IMDG, IATA	Void
• Environmental hazards:	
• Marine pollutant:	No
• Special precautions for user	Not applicable.
• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
• UN "Model Regulation":	-

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

- **Section 302/304 (40CFR355.30 / 40CFR355.40):**

None of the ingredients is listed.

- **Section 313 (40CFR372.65):**

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· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· California Proposition 65:

· Developmental Toxicity

872-50-4 | N-methyl-2-pyrrolidone

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

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

None of the ingredients is listed.

· National regulations

· Technical instructions (air):

Class	Share in %
NK	50-100

· Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

· 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: Environmental Health and Safety.

· Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· Date of preparation / last revision 06/17/2015 / -

· 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Repr. 1B: Reproductive toxicity, Hazard Category 1B

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STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

. * Data compared to the previous version altered.

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