

# Safety Data Sheet

acc. to OSHA HCS


Printing date 12/12/2018

Reviewed on 12/12/2018

## 1 Identification

- **Product identifier**
- **Trade name:** ReadyPrep™ 2-D Rehydration/Sample Buffer 1
- **Catalog or product number:** 1632083
- **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:** [lsg\\_techserv\\_us@bio-rad.com](mailto: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**  
Carc. 2 H351 Suspected of causing cancer.  
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
  - **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
- 

GHS08
- **Signal word** Warning
  - **Hazard-determining components of labeling:**  
thiourea
  - **Hazard statements**  
H351 Suspected of causing cancer.  
H361 Suspected of damaging fertility or the unborn child.
  - **Precautionary statements**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
  - **Classification system**
  - **Special Hazards** Reproductive toxin.
  - **Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.

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· **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with non-hazardous additions.

· **Listing of dangerous and non-hazardous components:**

57-13-6	urea		50-100%
62-56-6	thiourea	Carc. 2, H351; Repr. 2, H361 Acute Tox. 4, H302	20-35%

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

**4 First-aid measures**

- **Description of first aid measures**
- **General information** No special measures required.
- **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.
- **After swallowing** Rinse mouth with water. Seek medical attention and appropriate follow-up.
- **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** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**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:** Dispose contaminated material as waste according to item 13.
- **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:**

urea	30 mg/m <sup>3</sup>
thiourea	0.38 mg/m <sup>3</sup>

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· <b>PAC-2:</b>		
57-13-6	urea	280 mg/m <sup>3</sup>
62-56-6	thiourea	4.1 mg/m <sup>3</sup>
· <b>PAC-3:</b>		
57-13-6	urea	1,700 mg/m <sup>3</sup>
62-56-6	thiourea	25 mg/m <sup>3</sup>

**7 Handling and storage**

- **Handling**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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:** Keep receptacle tightly sealed.
- **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:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the remaining constituent has no known exposure limits.

**57-13-6 urea**

WEEL Long-term value: 10 mg/m<sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **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

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**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Solid  
 · **Color:** White  
 · **Odor:** Odorless  
 · **Odor threshold:** Not determined.

· **pH-value at 20 °C:** >10

· **Change in condition**

· **Melting point/Melting range:** undetermined  
 · **Boiling point/Boiling range:** undetermined

· **Flash point:** Not applicable  
 Not determined.

· **Flammability (solid, gaseous)** Not determined.  
 Not applicable.

· **Ignition temperature:** 440 °C

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

· **Lower:** Not determined.  
 · **Upper:** Not determined.

· **Vapor pressure:** Not applicable.

· **Density:** Not determined

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

· **Water:** Soluble

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

· **Viscosity:**

· **dynamic:** Not applicable.  
 · **kinematic:** Not applicable.

· **Solvent content:**

· **Solids content:** 100.0 %

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

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**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:**

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

**57-13-6 urea**

Oral	LD50	14,500 mg/kg (rat)
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**62-56-6 thiourea**

Oral	LD50	1,750 mg/kg (rat)
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Dermal	LD50	2,800 mg/kg (rbt)
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· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritant effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

62-56-6	thiourea	3
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· **NTP (National Toxicology Program)**

62-56-6	thiourea	R
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· **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.

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- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water.  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even 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**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· <b>UN-Number</b> · <b>DOT, ADR, IMDG, IATA</b>	UN3077
· <b>UN proper shipping name</b> · <b>DOT</b> · <b>ADR</b> · <b>IMDG, IATA</b>	RQ Environmentally hazardous substances, solid, n.o.s. (thiourea) 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
· <b>Transport hazard class(es)</b> · <b>DOT</b> · <b>Class</b>	9 Miscellaneous dangerous substances and articles
· <b>ADR, IMDG, IATA</b> · <b>Class</b> · <b>Label</b>	9 Miscellaneous dangerous substances and articles 9
· <b>Packing group</b> · <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b> · <b>Special marking (ADR):</b> · <b>Special marking (IATA):</b>	No Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b>	Warning: Miscellaneous dangerous substances and articles 9

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· <b>EMS Number:</b>	F-A,S-F
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	Void Void
· <b>Hazardous substance:</b>	10 lbs, 4.54 kg
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5
· <b>Excepted quantities (EQ)</b>	Code: E
· <b>UN "Model Regulation":</b>	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (THIOUREA), 9, III

**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):**

62-56-6 thiourea

· **TSCA (Toxic Substances Control Act):**

57-13-6 urea

62-56-6 thiourea

77-86-1 Tris(hydroxymethyl)aminomethane

115-39-9 tetrabromophenol blue

· **TSCA new (21st Century Act)**

57-13-6 urea

ACTIVE/EXEMPT

62-56-6 thiourea

ACTIVE/EXEMPT

· **California Proposition 65:**

None of the ingredients is listed.

· **Chemicals known to cause cancer:**

62-56-6 thiourea

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· **Developmental Toxicity**

None of the ingredients is listed.

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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

57-13-6 urea

II

· **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.

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
I	20-35

· **Water hazard class:** Water hazard class 2 (Self-assessment): 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** 12/12/2018 / -

· **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

PBT: Persistent, Bioaccumulative and Toxic

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

Acute Tox. 4: Acute toxicity – Category 4

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

· **\* Data compared to the previous version altered.**