

## SAFETY DATA SHEET

according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

### GelStar® Nucleic Acid Gel Stain

Version 4.0

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#### SECTION 1. IDENTIFICATION

Product name : GelStar® Nucleic Acid Gel Stain

Material number : 50535

#### Manufacturer or supplier's details

Company : Lonza Ltd  
Muenchensteinerstrasse 38  
CH-4002 Basel  
Switzerland  
Business Telephone +41 61 316 81 11

Lonza Rockland Inc.  
191 Thomaston Street  
Rockland, ME 04841-2994  
USA  
Business Telephone: 1-207-594-3400

Lonza Walkersville Inc.  
8830 Biggs Ford Road  
Walkersville, MD 21793-0127  
USA  
Business Telephone 1-301-898-7025

E-mail address : prodinfo@lonza.com

Emergency telephone number : +41 61 313 94 94 (24h )

#### Recommended use of the chemical and restrictions on use

Recommended use : For research use only.

Restrictions on use : NOT FOR USE IN GMP MANUFACTURING, NOR HUMAN OR ANIMAL IN VIVO OR DIAGNOSTIC USE.

#### SECTION 2. HAZARDS IDENTIFICATION

##### GHS Classification

Flammable liquids : Category 4

##### GHS label elements

Signal word : Warning

Hazard statements : H227 Combustible liquid.

Precautionary statements : **Prevention:**  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

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P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

### Disposal:

P501 Dispose of contents/container in accordance with local regulation.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

| Chemical name / Synonyms | CAS-No. | Concentration (% w/w) |
|--------------------------|---------|-----------------------|
| Dimethyl sulfoxide ;DMSO | 67-68-5 | 99.9999               |

## SECTION 4. FIRST AID MEASURES

- If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
- In case of skin contact : After contact with skin, wash immediately with plenty of soap and water.  
Get medical attention if irritation develops and persists.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- If swallowed : Do not induce vomiting without medical advice.  
Immediately give large quantities of water to drink.  
Call a physician immediately.  
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : No information available.
- Notes to physician : No information available.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Dry powder  
Water spray  
Foam
- Hazardous combustion products : Carbon oxides (COx)  
Sulphur oxides (SOx)
- Further information : Use water spray to cool unopened containers.

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Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use respirator when performing operations involving potential exposure to vapour of the product.

Environmental precautions : Prevent product from entering drains.

Methods and materials for containment and cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).  
Do not flush into surface water or sanitary sewer system.

### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Highly flammable.  
Keep away from sources of ignition - No smoking.  
Take precautionary measures against static discharges.

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.

Conditions for safe storage : Keep frozen or refrigerated.  
Keep container closed when not in use.  
Remove all sources of ignition.  
To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions : Store containers in compliance with the most recent NFPA Code (NFPA 30). Ground all containers prior to pouring.

Technical measures/Precautions : Store containers in compliance with the most recent NFPA Code (NFPA 30). Ground all containers prior to pouring.

Recommended storage temperature : -4 °F / -20 °C

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| Components         | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis   |
|--------------------|---------|-------------------------------|------------------------------------------------|---------|
| Dimethyl sulfoxide | 67-68-5 | TWA                           | 250 ppm                                        | US WEEL |

#### Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : Wear suitable gloves. Take note of the information given by

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|                          |                                                                                                                                                            |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).                |
| Eye protection           | : Tightly fitting safety goggles                                                                                                                           |
| Skin and body protection | : Choose body protection according to the amount and concentration of the dangerous substance at the work place. No special protective equipment required. |
| Hygiene measures         | : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.                                         |

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                         |                           |
|-----------------------------------------|---------------------------|
| Appearance                              | : liquid                  |
| Colour                                  | : colourless              |
| Odour                                   | : No data available       |
| Odour Threshold                         | : No data available       |
| pH                                      | : No data available       |
| Melting point/freezing point            | : No data available       |
| Initial boiling point and boiling range | : No data available       |
| Flash point                             | : 192 °F / 89 °C          |
| Evaporation rate                        | : No data available       |
| Flammability (solid, gas)               | : No data available       |
| Flammability (liquids)                  | : No data available       |
| Upper explosion limit                   | : No data available       |
| Lower explosion limit                   | : No data available       |
| Vapour pressure                         | : 0.56 hPa                |
| Relative vapour density                 | : No data available       |
| Relative density                        | : No data available       |
| Density                                 | : 1.101 g/cm <sup>3</sup> |
| Water solubility                        | : No data available       |
| Partition coefficient: n-octanol/water  | : No data available       |
| Auto-ignition temperature               | : No data available       |
| Decomposition temperature               | : No data available       |

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|                      |                     |
|----------------------|---------------------|
| Viscosity, dynamic   | : No data available |
| Viscosity, kinematic | : No data available |

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### SECTION 10. STABILITY AND REACTIVITY

|                                    |                                                |
|------------------------------------|------------------------------------------------|
| Reactivity                         | : Stable under recommended storage conditions. |
| Chemical stability                 | : Stable under normal conditions.              |
| Possibility of hazardous reactions | : Stable under normal conditions.              |
| Conditions to avoid                | : No data available                            |
| Incompatible materials             | : Strong oxidizing agents                      |
| Hazardous decomposition products   | : No decomposition if stored normally.         |

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

|                           |                              |
|---------------------------|------------------------------|
| Acute oral toxicity       | : Remarks: No data available |
| Acute inhalation toxicity | : Remarks: No data available |
| Acute dermal toxicity     | : Remarks: No data available |

#### Skin corrosion/irritation

|         |                     |
|---------|---------------------|
| Remarks | : No data available |
|---------|---------------------|

#### Serious eye damage/eye irritation

|         |                     |
|---------|---------------------|
| Remarks | : No data available |
|---------|---------------------|

#### Respiratory or skin sensitisation

|         |                     |
|---------|---------------------|
| Remarks | : No data available |
|---------|---------------------|

#### Germ cell mutagenicity

|                       |                              |
|-----------------------|------------------------------|
| Genotoxicity in vitro | : Remarks: No data available |
|-----------------------|------------------------------|

#### Carcinogenicity

|         |                     |
|---------|---------------------|
| Remarks | : No data available |
|---------|---------------------|

#### IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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**ACGIH** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### Reproductive toxicity

Effects on fertility : Remarks: No data available

### STOT - single exposure

Remarks : No data available

### STOT - repeated exposure

Remarks : No data available

### Further information

Remarks : No data is available on the product itself.

### The following toxicological data refer to:

Dimethyl sulfoxide(CAS-No.: 67-68-5)

### Acute toxicity

Acute oral toxicity : LD50 (Rat): 14,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 40250 ppm  
Exposure time: 4 h  
Test atmosphere: dust/mist

LC50 (Rat): 5,330 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat, male and female): 40,000 mg/kg

### Skin corrosion/irritation

Species : Rabbit  
Exposure time : 4 h  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : Mild skin irritation  
GLP : yes

### Serious eye damage/eye irritation

Species : Rabbit  
Result : Mild eye irritation  
Exposure time : 24 h  
Assessment : No eye irritation  
Method : OECD Test Guideline 405

### Respiratory or skin sensitisation

Test Type : Maximisation Test

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|            |                                                      |
|------------|------------------------------------------------------|
| Species    | : Guinea pig                                         |
| Assessment | : Did not cause sensitisation on laboratory animals. |
| Method     | : OECD Test Guideline 406                            |
| Result     | : not sensitizing                                    |

### Germ cell mutagenicity

|                       |                                                                                                                                                                                        |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Genotoxicity in vitro | : Test Type: Ames test<br>Species: Salmonella<br>Metabolic activation: with and without metabolic activation<br>Method: OECD Test Guideline 471<br>Result: negative                    |
|                       | : Test Type: Chromosome aberration test in vitro<br>Species: Chinese hamster ovary cells<br>Metabolic activation: yes<br>Result: negative                                              |
| Genotoxicity in vivo  | : Test Type: In vivo micronucleus test<br>Species: Rat<br>Application Route: ip<br>Dose: 200, 1000 and 5000 mg/kg/d<br>Method: OECD Test Guideline 474<br>Result: negative<br>GLP: yes |

### Carcinogenicity

|         |                     |
|---------|---------------------|
| Remarks | : No data available |
|---------|---------------------|

### Reproductive toxicity

|                               |                                                                                                                                                                                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility          | : Species: Rat<br>Application Route: Oral<br>General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight<br>General Toxicity F1: NOAEL: 1,000 mg/kg body weight<br>Early Embryonic Development: NOAEL: 1,000 mg/kg body weight |
| Effects on foetal development | : Species: Rat<br>Application Route: Oral<br>Method: OECD Test Guideline 414<br>Result: No adverse effects                                                                                                                   |

### STOT - single exposure

|                 |                       |
|-----------------|-----------------------|
| Remarks         | : No data available   |
| Exposure routes | : inhalation (vapour) |
| Target Organs   | : Respiratory system  |

### STOT - repeated exposure

|         |                     |
|---------|---------------------|
| Remarks | : No data available |
|---------|---------------------|

### Repeated dose toxicity

|                   |                          |
|-------------------|--------------------------|
| Species           | : Rat                    |
| NOAEC             | : 47.5 mg/m <sup>3</sup> |
| Application Route | : Inhalation             |
| Target Organs     | : Liver, Lungs           |

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### Further information

Remarks : Can be absorbed through skin.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Toxicity to fish : Remarks: No data available

### Persistence and degradability

Biodegradability : Result: no data available

### Bioaccumulative potential

Bioaccumulation : Remarks: No data available

### Components:

#### Dimethyl sulfoxide:

Partition coefficient: n-octanol/water : log Pow: -1.35 (20 °C)

### Mobility in soil

Distribution among environmental compartments : Remarks: No data available

### Other adverse effects

Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B)  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Contact waste disposal services.  
Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.  
Do not burn, or use a cutting torch on, the empty drum.

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### SECTION 14. TRANSPORT INFORMATION

#### DOT

|                                            |                                                      |
|--------------------------------------------|------------------------------------------------------|
| <b>UN number</b>                           | : NA 1993                                            |
| <b>Proper shipping name</b>                | : Combustible liquid, n.o.s.<br>(Dimethyl sulfoxide) |
| <b>Transport hazard class(es)</b>          | : CBL                                                |
| <b>Packing group</b>                       | : III                                                |
| <b>Labels</b>                              | : NONE                                               |
| <b>Emergency Response Guidebook Number</b> | : 128                                                |
| <b>Environmental hazards</b>               | : no                                                 |

#### TDG

: Not dangerous goods

|                               |                  |
|-------------------------------|------------------|
| <b>UN number</b>              | : Not applicable |
| <b>Proper shipping name</b>   | : Not applicable |
| <b>Transport hazard class</b> | : Not applicable |
| <b>Packing group</b>          | : Not applicable |

#### IATA

Not dangerous goods

|                               |                  |
|-------------------------------|------------------|
| <b>UN number</b>              | : Not applicable |
| <b>Proper shipping name</b>   | : Not applicable |
| <b>Transport hazard class</b> | : Not applicable |
| <b>Packing group</b>          | : Not applicable |

#### IMDG

Not dangerous goods

|                                   |                  |
|-----------------------------------|------------------|
| <b>UN number</b>                  | : Not applicable |
| <b>Proper shipping name</b>       | : Not applicable |
| <b>Transport hazard class(es)</b> | : Not applicable |
| <b>Packing group</b>              | : Not applicable |

#### ADR

: Not dangerous goods

|                               |                  |
|-------------------------------|------------------|
| <b>UN number</b>              | : Not applicable |
| <b>Proper shipping name</b>   | : Not applicable |
| <b>Transport hazard class</b> | : Not applicable |
| <b>Packing group</b>          | : Not applicable |

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|                                                                                 |   |                     |
|---------------------------------------------------------------------------------|---|---------------------|
| <b>RID</b>                                                                      | : | Not dangerous goods |
| <b>UN number</b>                                                                | : | Not applicable      |
| <b>Proper shipping name</b>                                                     | : | Not applicable      |
| <b>Transport hazard class</b>                                                   | : | Not applicable      |
| <b>Packing group</b>                                                            | : | Not applicable      |
| <b>Special precautions for user</b>                                             | : | none                |
| <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | : | Not applicable      |

## SECTION 15. REGULATORY INFORMATION

### TSCA SNUR/Export notifications

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

#### SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

| Components         | CAS-No. | Concentration    |
|--------------------|---------|------------------|
| Dimethyl sulfoxide | 67-68-5 | >= 90 - <= 100 % |

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

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### Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

### US State Regulations

#### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know

| Components         | CAS-No. |
|--------------------|---------|
| Dimethyl sulfoxide | 67-68-5 |

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### Canadian lists

No substances are subject to a Significant New Activity Notification.

### NPRI

Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

### The product components have the following inventory status:

TSCA : This product is solely for research and development purposes only and may not be used, processed or distributed for a commercial purpose. This material may only be handled by technically qualified individuals.

## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dan-

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gerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

GelStar is a registered trademark of DuPont Nutrition USA, Inc.  
Revision Date : 2024.04.25

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Date format : yyyy/mm/dd

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