Kit Name: GlykoPrep 2-AB Label & Cleanup Modules, 24-ct

Kit PN: GP24-ABCU

This product is a multi-level kit, composed of the following modules and individual chemical components:

**Kit Components**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Module Name</th>
<th>Kit Component Part Number</th>
<th>Kit Component Name</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS24-AB</td>
<td>GlykoPrep 2-AB Labeling Module, 24-ct</td>
<td>WS0300-24</td>
<td>Reductant Solution, 75 µl</td>
<td>1 Vial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WS0302-24</td>
<td>2-AB Solution, 75 µl</td>
<td>1 Vial</td>
</tr>
<tr>
<td>GS24-CU</td>
<td>GlykoPrep Cleanup Module (24-ct)</td>
<td>WS0293</td>
<td>GlykoPrep Cleanup (CU) Cartridges, 24-ct</td>
<td>2 X 12 Pack</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS1160</td>
<td>Aluminum Sealing Film</td>
<td>1 Each</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Contains only hardware, contains no chemicals</td>
<td></td>
</tr>
</tbody>
</table>

SDSs for each component follow this cover sheet.

**Transportation Information for the Kit:**

**Proper Shipping Names:**

<table>
<thead>
<tr>
<th>DOT</th>
<th>IATA/ICAO</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3316</td>
<td>UN3316</td>
<td>UN3316</td>
</tr>
<tr>
<td>Chemical Kits</td>
<td>Chemical Kit</td>
<td>Chemical Kit</td>
</tr>
</tbody>
</table>
1 Identification

- **Product identifier**
  This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

- **Product name**: GlykoPrep Cleanup (CU) Cartridges, 24-ct
- **Product Code**: WS0293
- **Application of the substance / the mixture**: Reagents and Standards for Analytical Chemical Laboratory Use

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier**: Agilent Technologies, Inc.
    5301 Stevens Creek Blvd
    Santa Clara, CA 95051, USA
  - **Email**: pdl-msds_author@agilent.com
  - **Phone number**: 800-227-9770
  - **Emergency telephone number**: CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**
  The substance is not classified, according to the Globally Harmonized System (GHS).

- **Additional information**:
  This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

- **Label elements**
  - **GHS label elements**: Void
  - **Hazard pictograms**: Void
  - **Signal word**: Void
  - **Hazard statements**: Void
  - **Precautionary statements**
    Avoid breathing dust/fume/gas/mist/vapors/spray

- **Classification system**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - Health = 0
  - Fire = 0
  - Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
  - **PBT**: Not applicable.
# Safety Data Sheet

**acc. to OSHA HCS**

**Revision Date:** 05/09/2019  
**Issue Date:** 05/08/2019

## Product Name

GlykoPrep Cleanup (CU) Cartridges, 24-ct

### 3 Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical characterization: Substances</td>
<td></td>
</tr>
<tr>
<td>CAS No. Description</td>
<td></td>
</tr>
<tr>
<td>Modified Silica</td>
<td></td>
</tr>
<tr>
<td>Additional information:</td>
<td></td>
</tr>
<tr>
<td>This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.</td>
<td></td>
</tr>
</tbody>
</table>

## 4 First-aid Measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of first aid measures</td>
<td></td>
</tr>
<tr>
<td>General information:</td>
<td>No special measures required.</td>
</tr>
<tr>
<td>After inhalation:</td>
<td>Supply fresh air; consult doctor in case of complaints.</td>
</tr>
<tr>
<td>After skin contact:</td>
<td>Generally the product does not irritate the skin.</td>
</tr>
<tr>
<td>After eye contact:</td>
<td>Rinse opened eye for several minutes under running water.</td>
</tr>
<tr>
<td>After swallowing:</td>
<td>If symptoms persist consult doctor.</td>
</tr>
<tr>
<td>Information for doctor:</td>
<td></td>
</tr>
<tr>
<td>Most important symptoms and effects, both acute and delayed</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>Indication of any immediate medical attention and special treatment needed</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

## 5 Fire-fighting Measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extinguishing media</td>
<td></td>
</tr>
<tr>
<td>Suitable extinguishing agents:</td>
<td>Use fire fighting measures that suit the environment.</td>
</tr>
<tr>
<td>Special hazards arising from the substance or mixture</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>Advice for firefighters</td>
<td></td>
</tr>
<tr>
<td>Protective equipment:</td>
<td>No special measures required.</td>
</tr>
</tbody>
</table>

## 6 Accidental Release Measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal precautions, protective equipment and emergency procedures</td>
<td></td>
</tr>
<tr>
<td>Environmental precautions:</td>
<td>Do not allow to enter sewers/ surface or ground water.</td>
</tr>
<tr>
<td>Methods and material for containment and cleaning up:</td>
<td>Pick up mechanically.</td>
</tr>
<tr>
<td>Reference to other sections</td>
<td></td>
</tr>
<tr>
<td>See Section 7 for information on safe handling.</td>
<td></td>
</tr>
<tr>
<td>See Section 8 for information on personal protection equipment.</td>
<td></td>
</tr>
<tr>
<td>See Section 13 for disposal information.</td>
<td></td>
</tr>
<tr>
<td>Protective Action Criteria for Chemicals</td>
<td></td>
</tr>
<tr>
<td>PAC-1:</td>
<td></td>
</tr>
<tr>
<td>Substance is not listed.</td>
<td></td>
</tr>
</tbody>
</table>
Product name: GlykoPrep Cleanup (CU) Cartridges, 24-ct

7 Handling and storage

· Handling:
  · Precautions for safe handling Wear protective gloves / eye protection / face protection.
  · 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): 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.
    The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
    At this time, the remaining constituent has no known exposure limits.
    At this time, the other constituents have no known exposure limits.
  · Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls
  · Personal protective equipment:
    · General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.
    · Breathing equipment: Not required.
    · Protection of hands:
      The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
      Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
    · Material of gloves
      The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
    · 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: Wear eye protection / face protection.
## 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Product is not flammable.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water</td>
<td>Insoluble.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>VOC content</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Solids content</td>
<td>100.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

## 10 Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td></td>
</tr>
<tr>
<td>Thermal decomposition / conditions to be avoided</td>
<td>No decomposition if used according to specifications.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No dangerous reactions known.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
Product name: GlykoPrep Cleanup (CU) Cartridges, 24-ct

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - Primary irritant effect:
      - on the skin: May be harmful in contact with skin.
      - on the eye: No irritating effect.
    - Sensitization: No sensitizing effects known.
  - Additional toxicological information:
    When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
    The substance is not subject to classification.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    Substance is not listed.
  - NTP (National Toxicology Program)
    Substance is not listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    Substance is not 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 (Self-assessment): slightly hazardous for water
      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: Dispose of contents/container in accordance with local/regional/national/international regulations.
Product name: GlykoPrep Cleanup (CU) Cartridges, 24-ct

· Uncleaned packagings:
  · Recommendation: Disposal must be made according to official regulations.

14 Transport information

This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

· UN-Number
  · DOT, ADN, IMDG, IATA not regulated

· UN proper shipping name
  · DOT, ADN, IMDG, IATA not regulated

· Transport hazard class(es)
  · DOT, ADN, IMDG, IATA not regulated

· Class
  · Dot, IMDG, IATA not regulated

· Packing group
  · DOT, IMDG, IATA not regulated

· Environmental hazards:
  · Not applicable.

· 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":
  · not regulated

15 Regulatory information

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

· Section 355 (extremely hazardous substances):
  · Substance is not listed.

· Section 313 (Specific toxic chemical listings):
  · Substance is not listed.

· TSCA (Toxic Substances Control Act):
  · Substance is not listed.

· TSCA new (21st Century Act): (Substances not listed)
  · Modified Silica

· Proposition 65
  · Chemicals known to cause cancer:
    · Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:
  · Substance is not listed.
Product name: GlykoPrep Cleanup (CU) Cartridges, 24-ct

| · Chemicals known to cause reproductive toxicity for males:  |
| Substance is not listed.                                    |
| · Chemicals known to cause developmental toxicity:         |
| Substance is not listed.                                   |
| · Carcinogenic categories                                  |
| · EPA (Environmental Protection Agency)                    |
| Substance is not listed.                                   |
| · TLV (Threshold Limit Value established by ACGIH)        |
| Substance is not listed.                                   |
| · NIOSH-Ca (National Institute for Occupational Safety and Health) |
| Substance is not listed.                                   |
| · GHS label elements Void                                 |
| · Hazard pictograms Void                                  |
| · Signal word Void                                        |
| · Hazard statements Void                                  |
| · Precautionary statements                                |
| Avoid breathing dust/fume/gas/mist/vapors/spray            |
| · Chemical safety assessment: A Chemical Safety Assessment has not been carried out. |

16 Other information
The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.
1 Identification

· Product identifier
· Product name: Reductant Solution
· Product Code: WS0300, WS0300-24
· Application of the substance / the mixture: Reagents and Standards for Analytical Chemical Laboratory Use

· Details of the supplier of the safety data sheet
· Manufacturer/Supplier:
  Agilent Technologies
  5301 Stevens Creek Blvd
  Santa Clara, CA 95051, USA
· Email: pdl-msds_author@agilent.com
· Phone number: 800-227-9770
· Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture
  GHS06 Skull and crossbones
  Acute Toxicity (Oral) - Category 2 H300 Fatal if swallowed.
  Acute Toxicity (Dermal) – Category 2 H310 Fatal in contact with skin.

  GHS05 Corrosion
  Skin Corrosion - Category 1B H314 Causes severe skin burns and eye damage.

  GHS07
  Specific Target Organ Toxicity - Single Exposure - Category 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  GHS06  GHS07

· Signal word Danger
· Hazard-determining components of labeling: sodium cyanoborohydride
· Hazard statements
  Fatal if swallowed or in contact with skin.

(Contd. on page 2)
Product name: Reductant Solution

Causes severe skin burns and eye damage. May cause respiratory irritation.

Precautionary statements:
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not allow contact with air.
Handle and store contents under inert gas. Protect from moisture.
Do not breathe dust or mists.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of inadequate ventilation wear respiratory protection.
If swallowed: Call a doctor if you feel unwell.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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).
Take off immediately all contaminated clothing and wash it before reuse.
Collect spillage.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)

Health = 3
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *3
Fire = 0
Reactivity = 0

3 Composition/Information on ingredients

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

Dangerous components:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl sulfoxide</td>
<td>67-68-5</td>
<td>86.0% w/w</td>
</tr>
<tr>
<td>sodium cyanoborohydride</td>
<td>25895-60-7</td>
<td>14.0% w/w</td>
</tr>
</tbody>
</table>
4 First aid measures

- Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - After inhalation: In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
  - After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- 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 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    - Sand. Do not use water.
    - Use fire fighting measures that suit the environment.
  - For safety reasons unsuitable extinguishing agents: Water
  - Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Mount respiratory protective device.
  - Wear protective equipment. Keep unprotected persons away.
  - 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).
  - Use neutralizing agent.
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
  - Do not flush with water or aqueous cleansing agents
- 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
    - Ensure good ventilation/exhaustion at the workplace.
    - Prevent formation of aerosols.
  - 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: Do not store together with acids.

Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves Wear suitable 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:

Tightly sealed goggles
### 9 Physical and chemical properties

**Information on basic physical and chemical properties**

**General Information**

- **Appearance:** Liquid
  - **Form:** Liquid
  - **Color:** Colorless
  - **Odor:** Characteristic
  - **Odor threshold:** Not determined.
- **pH-value:** Not determined.

**Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.

**Explosion limits:**

- **Lower:** Not determined.
- **Upper:** Not determined.

**Vapor pressure:** Not determined.

- **Density:** Not determined.
  - **Relative density:** Not determined.
  - **Vapor density:** Not determined.
  - **Evaporation rate:** Not determined.

**Solubility in / Miscibility with**

- **Water:** Not miscible or difficult to mix.

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

- **Viscosity:**
  - **Dynamic:** Not determined.
  - **Kinematic:** Not determined.

**Solvent content:**

- **Organic solvents:** 86.0 %
- **Solids content:** 14.0 %

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

### 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.
11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
    - **LD/LC50 values that are relevant for classification:**
      | 67-68-5 dimethyl sulfoxide |
      |---------------------------|
      | Oral | LD50 | 14,500 mg/kg (rat) |
      | Dermal | LD50 | >5,000 mg/kg (rabbit) |
      | Inhalative | LC50/4 h | 40,250 mg/l (rat) |

- **Primary irritant effect:**
  - **on the skin:** Caustic effect on skin and mucous membranes.
  - **on the eye:** Strong caustic effect.
  - **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**
  - The product shows the following dangers according to internally approved calculation methods for preparations:
    - Corrosive
    - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **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.

12 Ecological information

- **Toxicity**
  - **Aquatic toxicity:**
    - 67-68-5 dimethyl sulfoxide
      - EC50 | mg/kg (daphnia)
  - **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 2 (Self-assessment): hazardous for water
      - Do not allow product to reach ground water, water course or sewage system.
      - Must not reach bodies of water or drainage ditch undiluted or unneutralized.
      - Danger to drinking water if even small quantities leak into the ground.
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.
Product name: Reductant Solution

13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** 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

Not Regulated, De minimis Quantities

- **UN-Number**
  - DOT, IMDG, IATA: not regulated
  - TDG: UN3082
- **UN proper shipping name**
  - DOT, IMDG, IATA: not regulated
  - TDG: 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- **Transport hazard class(es)**
  - DOT, IMDG, IATA: not regulated
  - TDG: 9 Miscellaneous dangerous substances and articles
- **TDG (Transport dangerous goods):**
  - **Class**
    - 9 Miscellaneous dangerous substances and articles
  - **Label**
    - 9
  - **Packing group**
    - DOT, IMDG, IATA: not regulated
    - TDG: III
  - **Environmental hazards:**
    - **Special marking (TDG):** Symbol (fish and tree)
  - **Special precautions for user**
    - **Danger code (Kemler):** Warning: Miscellaneous dangerous substances and articles 90
  - **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
    - Not applicable.
## 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.

### Canadian substance listings:

- **Canadian Domestic Substances List (DSL)**
  - 67-68-5 dimethyl sulfoxide

- **Canadian Ingredient Disclosure list (limit 0.1%)**
  - None of the ingredients is listed.

- **Canadian Ingredient Disclosure list (limit 1%)**
  - 67-68-5 dimethyl sulfoxide

### GHS label elements

- The product is classified and labeled according to the Globally Harmonized System (GHS).

### Hazard pictograms

<table>
<thead>
<tr>
<th>GHS05</th>
<th>GHS06</th>
<th>GHS07</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://example.com" alt="GHS05" /></td>
<td><img src="https://example.com" alt="GHS06" /></td>
<td><img src="https://example.com" alt="GHS07" /></td>
</tr>
</tbody>
</table>

### Signal word

*Danger*

### Hazard-determining components of labeling:

- Sodium cyanoborohydride

### Hazard statements

- **Fatal if swallowed or in contact with skin.**
- Causes severe skin burns and eye damage.
- May cause respiratory irritation.

### Precautionary statements

- If medical advice is needed, have product container or label at hand.
- Keep out of reach of children.
- Read label before use.
- Do not allow contact with air.
- Handle and store contents under inert gas. Protect from moisture.
- Do not breathe dust or mists.

(Contd. on page 9)
Product name: Reductant Solution

Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
If swallowed: Call a doctor if you feel unwell.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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).
Take off immediately all contaminated clothing and wash it before reuse.
Collect spillage.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.
1 Identification

· **Product identifier**
  
  · **Product name:** 2-AB Solution; 2-AB Solution, 24-ct
  
  · **Product Code:** WS0302, WS0302-24
  
  · **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use

· **Details of the supplier of the safety data sheet**
  
  · **Manufacturer/Supplier:** Agilent Technologies
    
    5301 Stevens Creek Blvd
    
    Santa Clara, CA 95051, USA
  
  · **Email:** pdl-msds_author@agilent.com
  
  · **Phone number:** 800-227-9770
  
  · **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

· **Classification of the substance or mixture**

<table>
<thead>
<tr>
<th>GHS02 Flame</th>
<th>GHS05 Corrosion</th>
<th>GHS07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Liquids - Category 3</td>
<td>H226 Flammable liquid and vapour.</td>
<td></td>
</tr>
<tr>
<td>Skin Corrosion - Category 1B</td>
<td>H314 Causes severe skin burns and eye damage.</td>
<td></td>
</tr>
<tr>
<td>Serious Eye Damage - Category 1</td>
<td>H318 Causes serious eye damage.</td>
<td></td>
</tr>
</tbody>
</table>

Acute Toxicity (Dermal) – Category 4 H312 Harmful in contact with skin.

Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.

· **Label elements**

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

<table>
<thead>
<tr>
<th>GHS02</th>
<th>GHS05</th>
<th>GHS07</th>
</tr>
</thead>
</table>

· **Signal word** Danger

· **Hazard-determining components of labeling:**
  
  acetic acid
  
  anthranilamide

(Contd. on page 2)
Product name: 2-AB Solution; 2-AB Solution, 24-ct

1. Hazard statements
   - Flammable liquid and vapour.
   - Harmful in contact with skin.
   - Causes severe skin burns and eye damage.
   - May cause an allergic skin reaction.

2. Precautionary statements
   - If medical advice is needed, have product container or label at hand.
   - Keep out of reach of children.
   - Read label before use.
   - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
   - Keep container tightly closed.
   - Ground and bond container and receiving equipment.
   - Use explosion-proof [electrical/ventilating/lighting] equipment.
   - Use non-sparking tools.
   - Take actions to prevent static discharges.
   - Do not breathe dust/fume/gas/mist/vapours/spray.
   - Wash thoroughly after handling.
   - Contaminated work clothing should not be allowed out of the workplace.
   - Wear protective gloves/protective clothing/eye protection/face protection.
   - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
   - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
   - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
   - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
   - Immediately call a poison center/doctor.
   - Take off contaminated clothing and wash it before reuse.
   - Specific measures (see on this label).
   - If skin irritation or rash occurs: Get medical advice/attention.
   - Wash contaminated clothing before reuse.
   - In case of fire: Use for extinction: CO2, powder or water spray.
   - Store in a well-ventilated place. Keep cool.
   - Store locked up.
   - Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Classification system:
   - NFPA ratings (scale 0 - 4)
     - Health = 3
     - Fire = 2
     - Reactivity = 0
   - HMIS-ratings (scale 0 - 4)
     - HEALTH = 3
     - FIRE = 2
     - REACTIVITY = 0

4. Composition/Information on ingredients
   - Chemical characterization: Mixtures
   - Description: Mixture of the substances listed below with nonhazardous additions.
   - Dangerous components:
     - 64-19-7 acetic acid 55.0% w/w
     - 67-68-5 dimethyl sulfoxide 35.0% w/w

(Contd. of page 3)
4 First aid measures

- Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
  - After inhalation: Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
  - After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- 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 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- 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 equipment. Keep unprotected persons away.
  - 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).
    - Use neutralizing agent.
    - Dispose contaminated material as waste according to item 13.
    - Ensure adequate ventilation.
    - Do not flush with water or aqueous cleansing agents
  - 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
    - Ensure good ventilation/exhaustion at the workplace.
    - Prevent formation of aerosols.
8 Exposure controls/ Personal protection

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

· Control parameters

<table>
<thead>
<tr>
<th>Components with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-19-7 acetic acid</td>
</tr>
<tr>
<td>EL</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>EV</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

· 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.
  Immediately remove all soiled and contaminated clothing.
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.

· Breathing equipment:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:

![Protective gloves](image)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves: Wear suitable 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.
## 9 Physical and chemical properties

### Information on basic physical and chemical properties

**General Information**

**Appearance:**
- **Form:** Liquid
- **Color:** According to product specification

**Odor:** Characteristic

**Odor threshold:** Not determined.

**pH-value at 20 °C:** 8.8

**Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 118 °C

**Flash point:** 40 °C

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:** 270 °C

**Decomposition temperature:** Not determined.

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

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

**Explosion limits:**
- **Lower:** 1.8 Vol %
- **Upper:** 63 Vol %

**Vapor pressure at 20 °C:** 16 hPa

**Density at 20 °C:** 1.0858 g/cm³
- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.

**Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

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

**Viscosity:**
- **Dynamic:** Not determined.
- **Kinematic:** Not determined.

**Solvent content:**
- **Organic solvents:** 90.0 %

(Contd. on page 6)
Safety Data Sheet
according to HPR, Schedule 1

Revision Date: 04/25/2019
Issue Date: 04/24/2019

Product name: 2-AB Solution; 2-AB Solution, 24-ct

Solids content: 10.0 %

Other information
No further relevant information available.

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 that are relevant for classification:
    64-19-7 acetic acid
    - Oral LD50 3,310 mg/kg (rat)
    - Dermal LD50 1,060 mg/kg (rabbit)
  - Primary irritant effect:
    - on the skin: Caustic effect on skin and mucous membranes.
    - on the eye: Strong caustic effect.
- Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:
  The product shows the following dangers according to internally approved calculation methods for preparations:
  - Corrosive
  - Irritant
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- 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.

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.

(Contd. on page 7)
Product name: 2-AB Solution; 2-AB Solution, 24-ct

- **Additional ecological information:**
  - **General notes:**
    Water hazard class 1 (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
    Must not reach bodies of water or drainage ditch undiluted or unneutralized.
  - **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.

- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **Not Regulated, De minimis Quantities**

- **UN-Number
  - DOT, TDG, IMDG, IATA**
  - UN2790

- **UN proper shipping name**
  - **DOT**
  - TDG
  - IMDG, IATA
  - Acetic acid solution mixture
  - 2790 ACETIC ACID SOLUTION mixture
  - ACETIC ACID SOLUTION mixture

- **Transport hazard class(es)**
  - **DOT, TDG, IMDG, IATA**

  - **Class**
  - 8 Corrosive substances
  - **Label**
  - 8

- **Packing group**
  - **DOT, TDG, IMDG, IATA**
  - II

- **Environmental hazards:**
  - Not applicable.

- **Special precautions for user**
  - Warning: Corrosive substances
  - **Danger code (Kemler):**
  - 80
  - **EMS Number:**
  - F-A, S-B
  - **Segregation groups**
  - Acids
  - **Stowage Category**
  - A
Product name: 2-AB Solution; 2-AB Solution, 24-ct

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

Transport/Additional information:

- DOT
  - Quantity limitations
    - On passenger aircraft/rail: 1 L
    - On cargo aircraft only: 30 L

- TDG
  - Excepted quantities (EQ)
    - Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml

- IMDG
  - Limited quantities (LQ)
    - 1L
  - Excepted quantities (EQ)
    - Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation": UN 2790 ACETIC ACID SOLUTION MIXTURE, 8, II

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.
  - Canadian substance listings:
    - Canadian Domestic Substances List (DSL)
      - 64-19-7 acetic acid
      - 67-68-5 dimethyl sulfoxide
    - Canadian Ingredient Disclosure list (limit 0.1%)
      - None of the ingredients is listed.
    - Canadian Ingredient Disclosure list (limit 1%)
      - 64-19-7 acetic acid
      - 67-68-5 dimethyl sulfoxide
  - GHS label elements
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS02
    - GHS05
    - GHS07
Product name: 2-AB Solution; 2-AB Solution, 24-ct

- **Signal word** Danger
- **Hazard-determining components of labeling:**
  - acetic acid
  - anthranilamide
- **Hazard statements**
  - Flammable liquid and vapour.
  - Harmful in contact with skin.
  - Causes severe skin burns and eye damage.
  - May cause an allergic skin reaction.
- **Precautionary statements**
  - If medical advice is needed, have product container or label at hand.
  - Keep out of reach of children.
  - Read label before use.
  - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - Keep container tightly closed.
  - Ground and bond container and receiving equipment.
  - Use explosion-proof [electrical/ventilating/lighting] equipment.
  - Use non-sparking tools.
  - Take actions to prevent static discharges.
  - Do not breathe dust/fume/gas/mist/vapours/spray.
  - Wash thoroughly after handling.
  - Contaminated work clothing should not be allowed out of the workplace.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
  - Take off contaminated clothing and wash it before reuse.
  - Specific measures (see on this label).
  - If skin irritation or rash occurs: Get medical advice/attention.
  - Wash contaminated clothing before reuse.
  - In case of fire: Use for extinction: CO2, powder or water spray.
  - Store in a well-ventilated place. Keep cool.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 **Other information**

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