



# Agilent Technologies

**Kit Name:** 2-AB-plus Labeling Kit

**Kit PN:** GKK-804

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

## Kit Components

Kit Component Part Number	Kit Component Name	Qty
WS0322	2-AB Solution, 144 $\mu$ l	2 vials
WS0323	Reductant Solution, 144 $\mu$ l	2 vials

SDSs for each component follow this cover sheet.

## Transportation Information for the Kit:

Proper Shipping Names:

DOT	IATA/ICAO	China
Not Regulated	Not Regulated	UN3316 Chemical Kit

**Safety Data Sheet  
according to HPR, Schedule 1**

Revision Date: 05/12/2019

Issue Date: 05/02/2019

**1 Identification**

- **Product identifier**
- **Product name:** 2-AB Solution
- **Product Code:** WS0322, WS0322-24
- **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, 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 identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 3      H226 Flammable liquid and vapour.



GHS05 Corrosion

Skin Corrosion - Category 1B      H314 Causes severe skin burns and eye damage.  
Serious Eye Damage - Category 1      H318 Causes serious eye damage.

GHS07

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**



GHS02



GHS05



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
acetic acid  
anthranilamide

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## Safety Data Sheet according to HPR, Schedule 1

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**Product name: 2-AB Solution**

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**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: CO<sub>2</sub>, 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.

**Classification system:**
**NFPA ratings (scale 0 - 4)**

**HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

### 3 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

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**Product name:** 2-AB Solution

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88-68-6 | anthranilamide

10.0% w/w

### 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:** CO<sub>2</sub>, 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.

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**Product name:** 2-AB Solution

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- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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:** 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:

##### 64-19-7 acetic acid

EL	Short-term value: 15 ppm Long-term value: 10 ppm
EV	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

- **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.

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## Safety Data Sheet according to HPR, Schedule 1

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**Product name:** 2-AB Solution

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· Eye protection:



Tightly sealed goggles

### 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/cm<sup>3</sup>

· 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 %

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**Product name:** 2-AB Solution

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<b>Solids content:</b>	10.0 %
<b>Other information</b>	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.

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## Safety Data Sheet according to HPR, Schedule 1

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**Product name:** 2-AB Solution

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· **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** Acetic acid solution mixture

· **TDG** 2790 ACETIC ACID SOLUTION mixture

· **IMDG, IATA** 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

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## Safety Data Sheet according to HPR, Schedule 1

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**Product name:** 2-AB Solution

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- |  |   |
|--|---|
| <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>  | On passenger aircraft/rail: 1 L<br>On cargo aircraft only: 30 L   |
| <hr style="border-top: 1px dashed black;"/>                                    |   |
| <b>TDG</b>   |   |
| <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| <hr style="border-top: 1px dashed black;"/>                                    |   |
| <b>IMDG</b>  |   |
| <b>Limited quantities (LQ)</b>   | 1L  |
| <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| <b>UN "Model Regulation":</b>  | 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

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## Safety Data Sheet according to HPR, Schedule 1

Revision Date: 05/12/2019

Issue Date: 05/02/2019

**Product name:** 2-AB Solution

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- **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: CO<sub>2</sub>, 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

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.

**Safety Data Sheet  
according to HPR, Schedule 1**

Revision Date: 05/09/2019

Issue Date: 05/07/2019

**1 Identification**

- **Product identifier**
- **Product name:** Reductant Solution
- **Product Code:** WS0323, WS0323-24, WS0323-96
- **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 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 cyanborohydride
- **Hazard statements**  
Fatal if swallowed or in contact with skin.

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CA

## Safety Data Sheet according to HPR, Schedule 1

Revision Date: 05/09/2019

Issue Date: 05/07/2019

**Product name: Reductant Solution**

(Contd. of page 1)

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:**

67-68-5	dimethyl sulfoxide	86.0% w/w
25895-60-7	sodium cyanborohydride	14.0% w/w

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## Safety Data Sheet according to HPR, Schedule 1

Revision Date: 05/09/2019

Issue Date: 05/07/2019

**Product name:** Reductant Solution

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### 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.

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CA

## Safety Data Sheet according to HPR, Schedule 1

Revision Date: 05/09/2019

Issue Date: 05/07/2019

**Product name:** Reductant Solution

(Contd. of page 3)

- **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

CA

(Contd. on page 5)

## Safety Data Sheet according to HPR, Schedule 1

Revision Date: 05/09/2019

Issue Date: 05/07/2019

**Product name:** Reductant Solution

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### 9 Physical and chemical properties

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

##### · General Information

##### · Appearance:

· 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.

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## Safety Data Sheet according to HPR, Schedule 1

Revision Date: 05/09/2019

Issue Date: 05/07/2019

**Product name:** Reductant Solution

(Contd. of page 5)

- **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:**

#### 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)
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- **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.

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· **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

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, IMDG, IATA</b></li> <li>· <b>TDG</b></li> </ul>	<p>not regulated UN3082</p>
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, IMDG, IATA</b></li> <li>· <b>TDG</b></li> </ul>	<p>not regulated 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.</p>
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul>	<p>not regulated</p>
<ul style="list-style-type: none"> <li>· <b>TDG (Transport dangerous goods):</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	<p>9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, IMDG, IATA</b></li> <li>· <b>TDG</b></li> </ul>	<p>not regulated III</p>
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Special marking (TDG):</b></li> </ul>	<p>Symbol (fish and tree)</p>
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Danger code (Kemler):</b></li> </ul>	<p>Warning: Miscellaneous dangerous substances and articles 90</p>
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	<p>Not applicable.</p>

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**Product name:** Reductant Solution

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**· Transport/Additional information:**
**· TDG**
**· Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**· UN "Model Regulation":**
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.,  
9, III

### 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**


GHS05   GHS06   GHS07

**· Signal word** Danger

**· Hazard-determining components of labeling:**

sodium cyanborohydride

**· 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.

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## Safety Data Sheet according to HPR, Schedule 1

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**Product name:** Reductant Solution

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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.

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