



Agilent Technologies

Kit Name: Glycan Hydrazinolysis Kit (Box 1 of 2), contains Hydrazine, anhydrous UN2029

Kit PN: [GK50202-BOX1](#)

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
WS0155	Hydrazine (H1), 750 µl	3 vials

SDSs for each component follow this cover sheet.

Transportation Information for the Kit:

Proper Shipping Names:

DOT	IATA/ICAO	China
UN2029	UN2029	UN2029

Revision Date: 04/23/2019

Issue Date: 01/31/2019

1 Identification

- **Product identifier**
- **Product name:** Hydrazine
- **Product Code:** WS0155
- **CAS Number:**
302-01-2
- **EC number:**
206-114-9
- **Index number:**
007-008-00-3
- **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
- **Issuing Department:** Agilent Quality Assurance
- **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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carc. 1B H350 May cause cancer.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

(Contd. on page 2)
US

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 1)



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Label elements

GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS02



GHS05



GHS06



GHS07



GHS08

Signal word Danger

Hazard-determining components of labeling:

hydrazine

Hazard statements

Highly flammable liquid and vapor.

Toxic if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

May cause cancer.

Precautionary statements

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face 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/shower.

IF INHALED: Call a POISON CENTER/doctor if you feel unwell.

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.

Collect spillage.

Store in accordance with local/regional/national/international regulations.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

Store away from flammable substances.

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

(Contd. on page 3)
US

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 2)

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



Health = 3
Fire = 2
Reactivity = 0

- HMIS-ratings (scale 0 - 4)



Health = *3
Fire = 2
Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
302-01-2 hydrazine
- Identification number(s)
- EC number: 206-114-9
- Index number: 007-008-00-3

4 First-aid measures

- Description of first aid measures

- General information:

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

- After inhalation:

Supply fresh air or oxygen; call for 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:

Do not induce vomiting; immediately call for medical help.
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.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 3)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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:** Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

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.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:

0.10 ppm

· PAC-2:

13 ppm

· PAC-3:

35 ppm

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· 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.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 4)

- **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:**

302-01-2 hydrazine

PEL	Long-term value: 1.3 mg/m ³ , 1 ppm Skin
-----	--

REL	Ceiling limit value: 0.04* mg/m ³ , 0.03* ppm *120-min; See Pocket Guide App. A
-----	---

TLV	Long-term value: 0.013 mg/m ³ , 0.01 ppm Skin
-----	---

- **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.

Store protective clothing separately.

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

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:



Tightly sealed goggles

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 5)

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Liquid
Color:	Light brown
· Odor:	Ammonia-like
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	1.54 °C (34.8 °F)
Boiling point/Boiling range:	113.5 °C (236.3 °F)
· Flash point:	52 °C (125.6 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	270 °C (518 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Not determined.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	4.7 Vol %
Upper:	100 Vol %
· Vapor pressure at 20 °C (68 °F):	21 hPa (15.8 mm Hg)
· Density at 20 °C (68 °F):	1.0083 g/cm³ (8.41426 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water at 20 °C (68 °F):	1 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
VOC content:	0.00 %
· Solids content:	0.0 %
· 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.

(Contd. on page 7)
US

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 6)

- **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:**
- **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:**

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)**

	2A
--	----

- **NTP (National Toxicology Program)**

	R
--	---

- **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.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**

Water hazard class 3 (Assessment by list): extremely hazardous for water
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.
 Danger to drinking water if even extremely small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 7)

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

· UN-Number	
· DOT, IMDG, IATA	UN2029
· UN proper shipping name	
· DOT	Hydrazine, anhydrous
· IMDG, IATA	HYDRAZINE, ANHYDROUS
· Transport hazard class(es)	
· DOT	  
· Class	8 Corrosive substances
· Label	8, 3, 6.1
· IMDG	  
· Class	8 Corrosive substances
· Label	8/3/6.1
· IATA	  
· Class	8 Corrosive substances
· Label	8 (3, 6.1)
· Packing group	
· DOT, IMDG, IATA	I
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	-
· EMS Number:	8-01
· Segregation groups	Alkalies

(Contd. on page 9)

us

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 8)

· Stowage Category	D
· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG5 Segregation as for class 3 SG8 Stow "away from" class 4.1 SG35 Stow "separated from" acids.
· 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: Forbidden On cargo aircraft only: 2.5 L
· Hazardous substance:	1 lbs, 0.454 kg
· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN 2029 HYDRAZINE, ANHYDROUS, 8 (3+6.1), I, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

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

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **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)**

B2

· **TLV (Threshold Limit Value established by ACGIH)**

A3

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 9)

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

Substance is listed.

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



· **Signal word** Danger

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

hydrazine

· **Hazard statements**

Highly flammable liquid and vapor.

Toxic if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

May cause cancer.

· **Precautionary statements**

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face 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/shower.

IF INHALED: Call a POISON CENTER/doctor if you feel unwell.

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.

Collect spillage.

Store in accordance with local/regional/national/international regulations.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

Store away from flammable substances.

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

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

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

US

(Contd. on page 11)

**Safety Data Sheet
acc. to OSHA HCS**

Revision Date: 04/23/2019

Issue Date: 01/31/2019

Product name: Hydrazine

(Contd. of page 10)

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.

Abbreviations and acronyms:

Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1B: Carcinogenicity – Category 1B

US