Safety Data Sheet

Cat. # RC-054

Glycine

Size: 500g

Glycine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/06/2016 Revision date: 05/11/2017 Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Glycine
Chemical name	:	Glycine
CAS-No.	:	56-40-6
Product code	:	G043_115G
Formula	:	C2H5NO2
Synonyms	:	acetic acid, amino- / aciport / aminoethanoic acid / E640 / GLY / glycine / glycocoll / glycolixir / glycosthene / gyn-hydralin / hampshire glycine / l-glycine / padil
BIG No	:	10577

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Laboratory chemical Chemical raw material Animal feeding stuff: additive Food industry: additive Stabilizer Veterinary medicine

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
Glycine	acetic acid, amino- / aciport / aminoethanoic acid / E640 / GLY / glycine / glycocoll / glycolixir / glycosthene / gyn-hydralin / hampshire glycine / l-glycine / padil	(CAS-No.) 56-40-6		Not classified

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Not irritant to eyes.

Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Coughing.

Symptoms/effects after skin contact : No effects known.

Symptoms/effects after eye contact : No effects known.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea.

Chronic symptoms : No effects known.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting extinguisher, reel). Water. Class A foam.

Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Non-flammable. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard.

Explosion hazard : DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.

Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. In case of dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosionproof appliances/lighting equipment.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.
Methods for cleaning up	:	Prevent dust cloud formation. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Powdered form: no compressed air for pumping over. Keep container tightly closed.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store in a well-ventilated place. Keep cool.
Storage temperature	:	0 - 40 °C
Heat-ignition	:	KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage	:	KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) bases. (strong) acids.
Storage area	:	Store in a cool area. Protect against frost. Store in a dry area. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycine (56-40-6)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE GOOD RESISTANCE: nitrile rubber

Hand protection:

Gloves

Eye protection:

Safety glasses. In case of dust production: protective goggles

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P1

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Crystalline solid. Powder.
Color	:	White
Odor	:	Odourless
Odor threshold	:	No data available
pH	:	5.9 - 6.4 (5 %)
Melting point	:	Not applicable (decomposes)
Freezing point	:	Not applicable
Boiling point	:	Not applicable (decomposes)
Flash point	:	Not applicable
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	< 0.01 hPa (25 °C, Calculated)
Relative vapor density at 20 °C	:	Not applicable
Relative density	:	1.16 (20 °C)
Specific gravity / density	:	1595 kg/m³
Molecular mass	:	75.07 g/mol
Solubility	:	Soluble in water. Water: 25 g/100ml (25 °C) Ethanol: 0.06 g/100ml
Log Pow	:	-3.21 (Experimental value)
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	>= 233 °C (1013 hPa)
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	Not applicable
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

VOC content	:	0 %
Other properties	:	Acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with chlorine bleach: release of (highly) toxic gases/vapours. Reacts with (strong) oxidizers. Reacts with (strong) bases.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified

Acute toxicity (inhalation) : Not classified

Glycine (56-40-6)	
LD50 oral rat	7930 - 9550 mg/kg (Rat, Male / female, Experimental value, Oral, 7 day(s))
ATE US (oral)	7930 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 5.9 - 6.4 (5 %)

Serious eye damage/irritation : Not classified
pH: 5.9 - 6.4 (5 %)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Not irritant to eyes.

Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Coughing.

Symptoms/effects after skin contact : No effects known.

Symptoms/effects after eye contact : No effects known.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea.

Chronic symptoms : No effects known.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Ecology - air : Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photodegradation in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Slightly harmful to crustacea. Not harmful to fishes. No inhibition of activated sludge. Not harmful to algae. pH shift.

Glycine (56-40-6)	
LC50 fish 1	> 1000 mg/l (Equivalent or similar to OECD 203, 96 h, Oryzias latipes, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 Daphnia 1	>= 220 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

Glycine (56-40-6)	
Persistence and degradability	Readily biodegradable in water.
BOD (% of ThOD)	0.86 (5 day(s), Literature study)

12.3. Bioaccumulative potential

Glycine (56-40-6)	
BCF fish 1	0.893 l/kg (BCFBAF v3.01, Pisces, QSAR)
Log Pow	-3.21 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Glycine (56-40-6)	
Log Koc	0 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Recycle/reuse. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. May be discharged to wastewater treatment installation.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Glycine (56-40-6)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

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15.2. International regulations

CANADA

EU-Regulations

National regulations

No additional information available

15.3. US State regulations

SECTION 16: Other information

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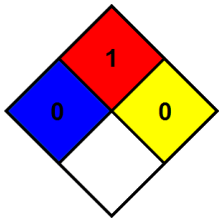
Revision date : 05/11/2017

NFPA health hazard	:	0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard	:	1 - Materials that must be preheated before ignition can occur.
NFPA reactivity	:	0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.