SAFETY DATA SHEET

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SECTION 1: COMPANY AND PRODUCT INFORMATION

1.1 Product identifiers

Product name	:	Betaine hydrochloride
Product code	:	40200032
CAS number	:	590-46-5
Synonyms	:	Betain (Carboxymethyl)trimethylammonium)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	:	Laboratory chemicals, manufacture of substances

1.3 Details of the supplier of the safety data sheet

Address	:	4150 Tuller Rd. Suite 228 Dublin, OH 43017
Email	:	tech@bio-world.com
Phone	:	614-792-8680, Toll free: 1-888-bio-PLUS
Fax	:	614-792-8685

1.4 Emergency telephone number

Emergency phone	:	1-888-bio-PLUS

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Not available

2.2 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Serious eye damage/eye irritation Category 2A

2.3 Label elements and precautionary statements

Pictogram :



Signal word	:	Warning
Hazard statement(s)	:	H319 Causes serious eye irritation.
Precautionary statement(s)	:	P264 Wash skin thoroughly after handling. P280 Wear protective gloves/ eye protection/ face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/ attention.

2.4 Hazards not otherwise classified (HNOC) or not covered by GHS

None

2.5 NFPA Rating

Health hazard : 2

Fire hazard : 0

Reactivity hazard : 0

2.6 HMIS Rating

Health hazard : 2

Chronic health hazard : 0

Reactivity hazard : 0

Flammability : 0

Physical hazard : 0

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Substance	CAS#	EC#	Concentration
Betaine hydrochloride M.F: $C_5H_{12}NO_2$•Cl M.W: 153.61g/mol	590-46-5	209-683-1	>98%

3.2 Hazardous components & classification

Eye Irrit. 2A; H319

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

In case of inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of ingestion

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Not available

4.3 Indication of any immediate medical attention and special treatment needed

Not available

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Unsuitable extinguishing media

Not available

5.3 Special hazards arising from the substance

Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride gas

5.4 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8

6.2 Environmental precautions

Do not let product enter drains

6.3 Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

For proper disposal see section 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

For precautions see section 2

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	:	Protect from moisture. Store at room temperature.
Incompatible materials	:	None known based on information supplied.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Engineering controls

Showers, Eyewash stations, Ventilation systems

8.3 Personal protective equipment

Eye/face protection	:	Wear safety glasses with side shields (or goggles).
Skin protection	:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body protection	:	impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

	Respiratory protection	:	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
	Control of environmental exposure	:	Do not let product enter drains.
	General hygiene considerations	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	:	crystalline powder
b)	Physical states	:	solid
c)	Odor	:	Not available
d)	Odor threshold	:	Not available
e)	Melting point	:	241 - 242 °C (466 - 468 °F) - lit.
f)	Boiling point range	:	Not available
g)	pH	:	Not available
h)	Density	:	Not available
i)	Flash point	:	Not available
j)	Evaporation rate	:	Not available
k)	Flammability	:	Not available
l)	Upper/lower flammability or explosive limits:	:	Not available
m)	Vapor pressure	:	Not available
n)	Vapor density	:	Not available
o)	Relative density	:	Not available
p)	Water solubility	:	Not available
q)	Partition coefficient:n-octanol/water	:	Not available
r)	Autoignition temperature	:	Not available
s)	Decomposition temperature	:	Not available
t)	Kinematic viscosity	:	Not available
u)	Explosive properties	:	Not available
v)	Oxidizing properties	:	Not available
w)	Solubility in other solvents	:	Not available
x)	Surface tension	:	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Stability note(s)

Not available

10.4 Polymerization

Not available

10.5 Possibility of hazardous reactions

None under normal processing.

10.6 Incompatible materials

Strong oxidizing agents.

10.7 Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Phosgene.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

LD50 Oral	:	Not available
LD50 Dermal	:	Not available
LC50 Inhalation	:	Not available

11.2 Skin corrosion/irritation

Not available

11.3 Serious eye damage/eye irritation

Not available

11.4 Respiratory or skin sensitization

Not available

11.5 Germ cell mutagenicity

Not available

11.6 Carcinogenicity

IARC	:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

11.7 Reproductive toxicity

Not available

11.8 Specific target organ toxicity – single exposure

Not available

11.9 Specific target organ toxicity – repeated exposure

Not available

11.10 Aspiration hazard

Not available

11.11 Additional Information

Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Not available

12.2 Aquatic toxicity

Not available

12.3 Persistence and degradability

Not available

12.4 Bioaccumulative potential

Not available

12.5 Mobility in soil

Not available

12.6 Results of PBT and vPvB assessment

Not available

12.7 Other adverse effect

Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.2 Packaging

Dispose of as unused product.

13.3 Recommendation

Not available

SECTION 14: TRANSPORTATION INFORMATION

14.1 DOT (US)

Not dangerous goods

14.2 IMDG

Not dangerous goods

14.3 IATA

Not dangerous goods

SECTION 15: REGULATORY INFORMATION

15.1 SARA

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.
SARA 311/312 Hazard Categories
Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

15.2 Clean water act (CWA)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

15.3 Right to know components

Massachusetts	:	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania	:	Not available
New Jersey	:	Not available
California proposition 65 components	:	This product does not contain any Proposition 65 chemicals.

SECTION 16: OTHER INFORMATION

16.1 Disclaimer

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16.2 Preparation Information

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