

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name: a-Methylene-g-butyrolactone
CAS-No.: 547-65-9

EC number: 208-931-6
Product Code: GEO-03235

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:

Georganics Ltd., Koreničova 1, 811 03 Bratislava, Slovak Republic
Phone Number: +421 33 6403132, E-mail address: georganics@georganics.sk

1.4 Emergency telephone number: National Toxicological Information Centre, Tel: +421-2-54774166, Mob: +421 911 166 066

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CPL)

Flammable liquids, (Category 3) H226: Flammable liquid and vapour.
Skin sensitisation, (Category 1) H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, (Category 3) H412: Harmful to aquatic life with long lasting effects.

2.1.2 Additional information: For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Hazard pictogram:



Hazard statements:

H226-Flammable liquid and vapour.
H317-May cause an allergic skin reaction.
H412-Harmful to aquatic life with long lasting effects.

Signal word: Warning

Precautionary statements:

P210-Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233-Keep container tightly closed.
P240-Ground/bond container and receiving equipment.
P273-Avoid release to the environment.
P280-Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353-IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

2.3 Other hazards

Supplemental Hazard information (EU): Not applicable

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

Identification numbers	Substance name	Concentration	Classification according to Regulation (EC) No 1272/2008	SCL / M-factor / ATE
CAS: 547-65-9 EC: 208-931-6	a-Methylene-g-butyrolactone	<= 100%	H226;H317;H412	-

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

General notes

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

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. Take victim immediately to hospital. Consult a physician.

In case of eye contact

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

If swallowed

Do NOT induce vomiting. 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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5 - FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media: Water Foam Carbon dioxide (CO₂) Dry powder.

Unsuitable extinguishing media: -

5.2 Special hazards arising from the substance or mixture - During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

5.3 Advice for firefighters - Wear self-contained breathing apparatus and protective clothing to prevent contact with skin/eyes.

5.4 Further information - Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures - Wear protective equipment. Ensure adequate ventilation. Keep unprotected persons away. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Wash spill site after material pickup is complete.

6.2 Environmental precautions - Prevent further leakage or spillage if safe to do so. Do not let this chemical enter the environment.

6.3 Methods and materials for containment and cleaning up - Spilled product should be covered with suitable (non-flammable) absorbing material. Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation

6.4 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 information on disposal.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling - For precautions see section 2.2.

Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities - Store in a dry, cool and well-ventilated place. Keep container closed when not in use. See Section 10 for stability and reactivity information. Keep container tightly closed in a dry and well-ventilated place.

Keep away from heat and sources of ignition. Air and moisture sensitive. Light sensitive. Recommended storage temperature 2 - 8 °C

7.3 Specific end use(s) - No further relevant information available

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**8.1 Control parameters****8.2 Exposure controls**

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels. Safety shower and eye bath.

Personal Protective Equipment

Eye and face protection: Wear chemical safety glasses.

Skin protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection: Wear appropriate protective mask with a filter against organic vapors.

Thermal hazard: No data available

Environmental exposure controls: Do not let product enter drains.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Physical state: Liquid

Color: Clear faint yellow

Odor: No data available

Freezing/Melting Point: No data available

Boiling Point: No data available

Flammability: No data available

Lower and upper explosion limit: No data available

Flash Point: 37 °C - closed cup °C

Auto-ignition temperature: No data available

Decomposition temperature: No data available

pH: No data available

Kinematic viscosity: No data available

Solubility: No data available

Partition coefficient n-octanol/water (log value): No data available

Vapor pressure: No data available

Density and/or relative density: No data available

Relative vapor density: No data available

Particle characteristics: No data available

9.2 Other safety information - No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity - Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability - The product is chemically stable under standard ambient conditions (room temperature). Contains the following stabiliser(s): butyl hydroxytoluene (BHT) (1.9 %)

10.3 Possibility of hazardous reactions - No data available

10.4 Conditions to avoid - Heating.

10.5 Incompatible materials - Strong oxidizing agents, Strong acids, Strong bases

10.6 Hazardous decomposition products -

SECTION 11 - TOXICOLOGICAL INFORMATION**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity - No data available

Skin irritation or corrosion - Causes skin irritation

Serious eye damage / irritation - Causes serious eye irritation.

Respiratory or skin sensitization - No data available

Germ cell mutagenicity - No data available

Carcinogenicity - No data available

Reproductive toxicity - No data available

Specific target organ system toxicity (STOT) - repeated exposure: No data available

Specific target organ system toxicity (STOT) - single exposure: No data available

11.2 Additional Information - To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties cannot be excluded. This substance should be handled with particular care.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity - No data available

12.2 Persistence and degradability - No data available

12.3 Bioaccumulative potential - No data available

12.4 Mobility in soil - No data available

12.5 Results of PBT and vPvB assessment - This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties - No data available

12.7 Other adverse effects - No data available

12.8 Additional information - No data available

SECTION 13 - DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal. The product must not be disposed of with municipal waste.

Contaminated packaging

Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

14.1 UN number: ADR/RID: 1993 IMDG: 1993 IATA: 1993

14.2 UN proper shipping name:

ADR/RID: FLAMMABLE LIQUID, N.O.S. (a-Methylene-g-butyrolactone)

IMDG: FLAMMABLE LIQUID, N.O.S. (a-Methylene-g-butyrolactone)

IATA: FLAMMABLE LIQUID, N.O.S. (a-Methylene-g-butyrolactone)

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packing group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user: No data available

14.7 Maritime transport in bulk according to IMO instruments - No data available

SECTION 15 - REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 as amended. Environmental Protection Act 1990 as amended. Clean Air Act 1993 as amended. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

15.2 Chemical safety assessment - No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16 - OTHER INFORMATION**Key to abbreviations and acronyms used in the safety data sheet**

ATE - Acute Toxicity Estimate	Kow - octanol-water partition coefficient
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road	LC50 - Lethal Concentration to 50 % of a test population
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways	LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
CEN - European Committee for Standardisation	LE - Legal Entity
C&L - Classification and Labelling	LoW - List of Wastes (http://ec.europa.eu/environment/waste/framework/list.htm)
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008	LR - Lead Registrant
CAS# - Chemical Abstracts Service number	M/I - Manufacturer / Importer
CMR - Carcinogen, Mutagen, or Reproductive Toxicant	MS - Member States
CSA - Chemical Safety Assessment	MSDS - Material Safety Data Sheet
CSR - Chemical Safety Report	OC - Operational Conditions
DNEL - Derived No Effect Level	OECD - Organization for Economic Co-operation and Development
DPD - Dangerous Preparations Directive 1999/45/EC	OEL - Occupational Exposure Limit
DSD - Dangerous Substances Directive 67/548/EEC	OJ - Official Journal
DU - Downstream User	OR - Only Representative
EC - European Community	OSHA - European Agency for Safety and Health at work
ECHA - European Chemicals Agency	PBT - Persistent, Bioaccumulative and Toxic substance
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)	PEC - Predicted Effect Concentration
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)	PNEC(s) - Predicted No Effect Concentration(s)
EEC - European Economic Community	PPE - Personal Protection Equipment
EINECS - European Inventory of Existing Commercial Substances	(Q)SAR - Qualitative Structure Activity Relationship
ELINCS - European List of notified Chemical Substances	REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
EN - European Standard	RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
EQS - Environmental Quality Standard	RIP - REACH Implementation Project
EU - European Union	RMM - Risk Management Measure
Euphrac - European Phrase Catalogue	SCBA - Self-Contained Breathing Apparatus
EWC - European Waste Catalogue (replaced by LoW – see below)	SDS - Safety data sheet
GES - Generic Exposure Scenario	SIEF - Substance Information Exchange Forum
GHS - Globally Harmonized System	SME - Small and Medium sized Enterprises
IATA - International Air Transport Association	STOT - Specific Target Organ Toxicity
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air	(STOT) RE - Repeated Exposure
IMDG - International Maritime Dangerous Goods	(STOT) SE - Single Exposure
IMSBC - International Maritime Solid Bulk Cargoes	SVHC - Substances of Very High Concern
IT - Information Technology	UFI - Unique Formula Identifier
IUCLID - International Uniform Chemical Information Database	UN - United Nations
IUPAC - International Union for Pure Applied Chemistry	vPvB - Very Persistent and Very Bioaccumulative
JRC - Joint Research Centre	

The information contained in the SDS are compiled according to the present knowledge of the manufacturer. It does not represent any guarantee of the properties of the product. SDS shall be used only as a guide. Georganics Ltd. is not liable for damages incurred in the handling or contact with chemicals.