date of compilation: 2023-07-21

Version: **1.0 en**

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Identification of the substance	**DBE - Lab4Green**
Article number	04
EC number	

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

Relevant identified uses:	Laboratory and analytical use Laboratory chemical
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Lab4Green
Via Torquato Tasso n. 108
00185 Rome
Italy

e-mail: info@lab4green.it

Website: www.labgreen.it

Competent person responsible for the safety data sheet: Andrea Macchia	Department Health, Safety and Environment
e-mail (competent person):	**info@lab4green.it**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
CENTRO ANTIVELENI: Milano Roma	Piazza dell'Ospedale Maggiore, 3 Piazza Sant'Onofrio, 4	20161 Milano MI 00165 Roma (RM)	(+39) 02.66101029 (+39) 06.3054343	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification acc. to GHS

This substance does not meet the criteria for classification.

2.2 Label elements

Labelling not required

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance: Dibasic ester

EC No: 906-170-0

Impurities/additives/constituents:

Name of substance	Identifier	Wt%
Reaction mass of dimethyl glutarate, dimethyl adipate and dimethyl succinate		≥ 99
Methanol	CAS No 67-56-1	0.1 – < 0.3

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off contaminated clothing.

Following inhalation Provide fresh air.

Following skin contact Rinse skin with water/shower.

Following eye contact

Rinse cautiously with water for several minutes.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed Vomiting

4.3 Indication of any immediate medical attention and special treatment needed none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO_2) **Unsuitable extinguishing media** water jet

5.2 Special hazards arising from the substance or mixture Combustible.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO_2), May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No special measures are necessary.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up Advice on how to contain a spill Covering of drains.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities Keep container tightly closed.

Incompatible substances or mixtures Observe hints for combined storage.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s) No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
AU	methyl alcohol (methanol)	67-56-1	WES	200	262	250	328				WES

Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Reaction mass of dimethyl glutarate, dimethyl adipate		DNEL	8.3 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalat-ory	worker (industry)	chronic - systemic effects
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalat-ory	worker (industry)	acute - systemic effects

Relevant DNELs of components of the mixtur e

Name of substance	CAS No	End-point	Thresho d l level	Protection goal, route of exposure	Used in	Exposure time
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalat-ory	worker (industry)	chronic - local ef - fects
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalat-ory	worker (industry)	acute - local ef-fects
Methanol	67-56-1	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	:hronic - systemic effects
Methanol	67-56-1	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Reaction mass of dimethyl glutarate, dimethyl adipate		PNEC	0.018 mg /l	aquatic organisms	freshwater	short-term (single instance)
Reaction mass of dimethyl glutarate, dimethyl adipate		PNEC	0.002 mg /l	aquatic organisms	marine water	short-term (single instance)
Reaction mass of dimethyl glutarate, dimethyl adipate		PNEC	10 mg /l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Reaction mass of dimethyl glutarate, dimethyl adipate		PNEC	0.16 mg/ g	aquatic organisms	freshwater sediment	short-term (single instance)
Reaction mass of dimethyl glutarate, dimethyl adipate		PNEC	0.016 mg / kg	aquatic organisms	marine sediment	short-term (single instance)
Reaction mass of dimethyl glutarate, dimethyl adipate		PNEC	0.09 mg/ g	terrestrial organisms	soil	short-term (single instance)
Methanol	67-56-1	PNEC	20.8 ng/ l	aquatic organisms	freshwater	short-term (single instance)
Methanol	67-56-1	PNEC	2.08 ng/ l	aquatic organisms	marine water	short-term (single instance)
Methanol	67-56-1	PNEC	100 g/ l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Methanol	67-56-1	PNEC	77 ng /kg	aquatic organisms	freshwater sediment	short-term (single instance)

Relevant PNECs of components of the mixture						
Name of substance	**CAS No**	**End-point**	**Threshold level**	**Organism**	**Environmental compartment**	**Exposure time**
Methanol	67-56-1	PNEC	7.7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection.

Skin protection

- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- **type of material**

Butyl caoutchouc (butyl rubber)

- **material thickness**

0,7mm

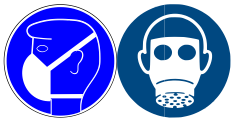
- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	mild sweet
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	195 – 216 °C at 1,013 hPa
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	0.8 vol% (LEL) - 8.1 vol% (UEL)
Flash point	100 °C (c.c.)
Auto-ignition temperature	360 °C
Decomposition temperature	not relevant
pH (value)	5 – 7 (in aqueous solution: 50 $^{g}/_{l}$)
Kinematic viscosity	2.608 $^{mm^2}/_{s}$ at 20 °C
Dynamic viscosity	2.85 mPa s at 20 °C
<u>Solubility(ies)</u>	
Water solubility	26 – 40.5 $^{g}/_{l}$ at 20 °C
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	1.4
Vapour pressure	0.094 hPa at 25 °C
<u>Density and/or relative density</u>	
Density	1.087 – 1.093 $^{g}/_{cm^3}$ at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
<u>Other safety parameters</u>	
Oxidising properties	none

9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Surface tension	67.3 $^{mN}/_{m}$ (20 °C, 0.1 wt%)

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

If heated

Vapours may form explosive mixtures with air.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Strong alkali, Strong acid

10.4 Conditions to avoid Keep away from heat.

10.5 Incompatible materials

Rubber articles, different plastics

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects Classification acc. to GHS

This substance does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Reaction mass of dimethyl glutarate, dimethyl adipate		oral	LD50	>5,000 mg/kg	rat
Reaction mass of dimethyl glutarate, dimethyl adipate		inhalation: dust/mist	LC50	>11 mg/l 4h	rat

Methanol	67-56-1	inhalation: va-pour	LC50	131 mg /l h	rat
Methanol	67-56-1	oral	LD50	5,628 mg/kg	rat
Methanol	67-56-1	oral	LDLo	143 mg /kg	human
Methanol	67-56-1	dermal	LD50	15,800 mg/kg	rabbit

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**vomiting
- **If in eyes**

Data are not available.

- **If inhaled**

Data are not available.

- **If on skin**

Data are not available.

- **Other information**none

11.2 Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture					
Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time

Methanol	67-56-1	LC50	15,400 mg/l	fish	96 h
Methanol	67-56-1	ErC50	22,000 mg/l	algae	96 h

Biodegradation

The substance is readily biodegradable. **12.2**

Process of degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Reaction mass of dimethyl glutarate, dimethyl adipate and dimethyl succinate		DOC removal	97 %	28 d		ECHA
Methanol	67-56-1	biotic/abiotic	99 %	30 d		
Methanol	67-56-1	oxygen depletion	69 %	5 d		ECHA

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	1.4

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Reaction mass of dimethyl glutarate, dimethyl adipate and dimethyl succinate			1.4 (pH value: 6.9, 22 °C)	
Methanol	67-56-1		-0.77	

12.4 Mobility in soil Data are not available.

12.5 Results of PBT and vPvB assessment Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

Sewage disposal-relevant information Do not empty into drains.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not assigned
14.3	**Transport hazard class(es)**	not assigned
14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments The cargo is not intended to be carried in bulk.

14.8

Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

Not subject to transport regulations. UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture There is no additional information.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	not all ingredients are listed
CA	DSL	not all ingredients are listed
CN	IECSC	not all ingredients are listed
EU	ECSI	not all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
KR	KECI	not all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	not all ingredients are listed
PH	PICCS	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	not all ingredients are listed
US	TSCA	not all ingredients are listed

Legend
AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation
CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)
DSL Domestic Substances List (DSL)
ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC Inventory of Existing Chemical Substances Produced or Imported in China
INSQ National Inventory of Chemical Substances KECI
Korea Existing Chemicals Inventory
NZIoC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substance Inventory
TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbr.	Descriptions of used abbreviations
BCF	Bioconcentration factor

Abbreviations and acronyms

BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)

Abbr.	Descriptions of used abbreviations
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
UN RTDG	UN Recommendations on the Transport of Dangerous Good

vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.