

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Dimethyl furan-2,5-dicarboxylate

Print date: 26.01.2016

Product code:

Page 1 of 9

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

1.1. Product identifier

Dimethyl furan-2,5-dicarboxylate

CAS No: 4282-32-0

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

Use of the substance/mixture

Industrial use.

Uses advised against

any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: AVA-Biochem BSL AG
 Street: Rothausstr. 61
 Place: 4132 Muttenz (Schweiz)
 Telephone: +41 61 469 59 92
 e-mail: info@ava-biochem.com
 Responsible Department: Dr. Gans-Eichler
 Chemieberatung GmbH
 Raesfeldstr. 22
 D-48149 Münster

e-mail: info@tge-consult.de
 Tel.: +49 (0)251/924520-60
 www.tge-consult.de

1.4. Emergency telephone

number: +41 61 469 59 92 (9:00-17:00 Mo-Fr)

Further Information

The substance does not require registration according to Regulation (EC) No 1907/2006 [REACH].

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
 Acute toxicity: Acute Tox. 4
 Acute toxicity: Acute Tox. 4
 Acute toxicity: Acute Tox. 4
 Skin corrosion/irritation: Skin Irrit. 2
 Serious eye damage/eye irritation: Eye Irrit. 2
 Specific target organ toxicity - single exposure: STOT SE 3
 Hazard Statements:
 Harmful if swallowed.
 Harmful in contact with skin.
 Harmful if inhaled.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause respiratory irritation.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling
 Dimethyl furan-2,5-dicarboxylate
Signal word: Warning

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Pictograms:



Hazard statements

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing Dust.
 P280 Wear protective gloves/protective clothing/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.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P501 Dispose of waste according to applicable legislation.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: C₈H₈O₅
 Molecular weight: 184,15

Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
4282-32-0	Dimethyl furan-2,5-dicarboxylate	100 %
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H302 H312 H332 H315 H319 H335	

Full text of H and EUH statements: see section 16.

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

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After contact with eyes

Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO₂).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See protective measures under point 7 and 8.

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

Take up mechanically.

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. See section 8.

Advice on protection against fire and explosion

Usual measures for fire prevention. Dust clouds may present an explosion hazard.

Further information on handling

Avoid generation of dust.

General protection and hygiene measures: refer to chapter 8

7.2. Conditions for safe storage, including any incompatibilities

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Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Advice on storage compatibility

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and feedingstuffs.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: <10°C

Protect against: Light. UV-radiation/sunlight. heat. moisture.

7.3. Specific end use(s)

refer to chapter 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls



Appropriate engineering controls

Dust should be exhausted directly at the point of origin.

Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

Eye/face protection

Dust protection goggles.

Hand protection

In case of prolonged or frequently repeated skin contact:

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time \geq 8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,11 mm

Breakthrough time \geq 8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

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Respiratory protection necessary at:

-In the case of the formation of dust.

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Type P1-3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!

Environmental exposure controls

No special precautionary measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Powder
Colour:	not determined
Odour:	characteristic

Test method

pH-Value:	not determined
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Changes in the physical state

Melting point:	not determined
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Initial boiling point and boiling range:	270 °C
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Sublimation point:	not determined
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Softening point:	not determined
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Pour point:	not determined
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Flash point:	not determined
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Sustaining combustion:	Not sustaining combustion
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Explosive properties

none

Lower explosion limits:	not determined
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Upper explosion limits:	not determined
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Ignition temperature:	not determined
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Auto-ignition temperature

Gas:	not determined
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Decomposition temperature:	not determined
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Oxidizing properties

none

Vapour pressure:	not determined
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Density:	1,24 g/cm ³
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Water solubility:	not determined
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Solubility in other solvents

not determined

Partition coefficient:	not determined
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Viscosity / dynamic:	not determined
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Viscosity / kinematic:	not determined
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Flow time:	not determined
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Vapour density:	not determined
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Evaporation rate:	not determined
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Solvent separation test: not determined

Solvent content: 0%

9.2. Other information

Solid content: 100%

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No data available.

Acute toxicity

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
4282-32-0	Dimethyl furan-2,5-dicarboxylate				
	oral	ATE	500 mg/kg		
	dermal	ATE	1100 mg/kg		
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		

Sensitising effects

Not classified.

STOT-single exposure

Not classified.

Severe effects after repeated or prolonged exposure

Not classified.

Carcinogenic/mutagenic/toxic effects for reproduction

Not classified.

Aspiration hazard

Not classified.

Specific effects in experiment on an animal

No data available.

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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 does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to EAKV:

Waste disposal number of waste from residues/unused products

160306 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes other than those mentioned in 16 03 05

Waste disposal number of used product

160306 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes other than those mentioned in 16 03 05

Waste disposal number of contaminated packaging

150203 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; absorbents, filter materials, wiping cloths and protective clothing; absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

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14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number: No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO)

14.1. UN number: No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

refer to chapter 6-8

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

2010/75/EU (VOC): 0%

2004/42/EC (VOC): 0 g/l

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information:

Additional information

This substance is hazardous in the sense of regulation (EC) No 1272/2008 (CLP).

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National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D): 3 - highly water contaminating

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

Rev. 1.0; Initial release: 25.01.2016

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

International Carriage of Dangerous Goods by Road)

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IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
 LOAEL: Lowest observed adverse effect level
 LOAEC: Lowest observed adverse effect concentration
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 NOAEL: No observed adverse effect level
 NOAEC: No observed adverse effect level
 NTP: National Toxicology Program
 N/A: not applicable
 OSHA: Concerning the International Transport of Dangerous Goods by Rail)
 PNEC: predicted no effect concentration
 PBT: Persistent bioaccumulative toxic
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 SARA: Superfund Amendments and Reauthorization Act
 SVHC: substance of very high concern
 TRGS Technische Regeln für Gefahrstoffe
 TSCA: Toxic Substances Control Act
 VOC: Volatile Organic Compounds
 VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
 WGK: Wassergefährdungsklasse

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.