

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****MD-AKTIVATOR-ANAEROBE**
Article number MAC.A11.Y150**1.2 Relevant identified uses of the substance or mixture and uses advised against****1.2.1 Relevant uses**

Activator

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company	Marston Domsel GmbH Bergheimer Str. 15 53909 Zülpich / GERMANY Phone 0 22 52 / 94 15 - 0 Fax 0 22 52 / 17 44 Homepage www.marston-domsel.de E-mail info@marston-domsel.de
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Address enquiries to

Technical information	info@marston-domsel.de
Safety Data Sheet	sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body	+49 (0)89-19240 (24h) (english)
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SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]**

Aerosol 1: H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.
 Skin Irrit. 2: H315 Causes skin irritation.
 STOT SE 3: H336 May cause drowsiness or dizziness.
 Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

F+, Extremely flammable - R 12: Extremely flammable.
 Xi, Irritant - R 38: Irritating to skin.
 N, Dangerous for the environment - R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R 67: Vapours may cause drowsiness and dizziness.



2.2 Label elements

The product is classified and required to be labelled in accordance with EC-Directives

Labelling according to Regulation (EC) 1272/2008

Hazard pictograms



Signal word

DANGER

Contains:

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Hazard statements

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P261 Avoid breathing spray.
P280 Wear protective gloves.
P271 Use only outdoors or in a well-ventilated area.
P405 Store locked up.
P501 Dispose of contents/container to in accordance with local/regional/national/international regulation.

2.3 Other hazards

Other hazards none

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
50 - < 75	Dimethyl ether CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, ECB-Nr.: 01-2119472128-37-XXXX GHS/CLP: Flam. Gas 1: H220 - Press. Gas (*): H280 EEC: F+, R 12
25 - < 50	Hydrocarbons, C6, isoalkanes, <5% n-hexane CAS: 64742-49-0, EINECS/ELINCS: 931-254-9, EU-INDEX: 649-328-00-1, ECB-Nr.: 01-2119484651-34-XXXX GHS/CLP: Flam. Liq. 2: H225 - Skin Irrit. 2: H315 - Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411 EEC: F-Xn-N, R 11-38-65-67-51/53
≤ 2,5	N,N-dimethyl-p-toluidine CAS: 99-97-8, EINECS/ELINCS: 202-805-4, EU-INDEX: 612-056-00-9 GHS/CLP: Acute Tox. 3: H301 H311 H331 - STOT RE 2: H373 - Aquatic Chronic 3: H412 EEC: T, R 23/24/25-33-52/53

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
For full text of H-statements and R-phrases: see SECTION 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General information	Change soaked clothing.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek for medical treatment.
Skin contact	When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.
Eye contact	In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.
Ingestion	not applicable

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 neededTreat symptomatically.
Forward this sheet to the doctor.**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

Suitable extinguishing media	Foam. Dry powder. Water spray jet. Carbon dioxide.
Extinguishing media that must not be used	Full water jet.

5.2 Special hazards arising from the substance or mixtureRisk of formation of toxic pyrolysis products.
Bursting aerosols can be forcibly projected from a fire.**5.3 Advice for firefighters**Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.
Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**Keep away from all sources of ignition.
Ensure adequate ventilation.**6.2 Environmental precautions**

not applicable

6.3 Methods and material for containment and cleaning upTake up mechanically.
Take up residues with absorbent material (e.g. sand, sawdust, generalpurpose binder, diatomaceous earth).
Dispose of absorbed material in accordance with the regulations.**6.4 Reference to other sections**

See SECTION 8+13

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Use only in well-ventilated areas.
 Avoid spilling or spraying in enclosed areas.
 Keep away from all sources of ignition - Refrain from smoking.
 Do not eat, drink, smoke or take drugs at work.
 Wash hands before breaks and after work.
 Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Provide solvent-resistant and impermeable floor.
 Do not store together with oxidizing agents.
 Protect from heat/overheating.
 Keep in a cool place, heat causes increase in pressure and risk of bursting.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection**8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (GB)**

Range [%]	Substance
50 - < 75	Dimethyl ether
	CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, ECB-Nr.: 01-2119472128-37-XXXX
	Long-term exposure: 400 ppm, 766 mg/m ³
	Short-term exposure (15-minute): 500 ppm, 958 mg/m ³
25 - < 50	Hydrocarbons, C6, isoalkanes, <5% n-hexane
	CAS: 64742-49-0, EINECS/ELINCS: 931-254-9, EU-INDEX: 649-328-00-1, ECB-Nr.: 01-2119484651-34-XXXX
	Long-term exposure: 1200 mg/m ³

Ingredients with occupational exposure limits to be monitored (EU)

Range [%]	Substance / EC LIMIT VALUES
50 - < 75	Dimethyl ether
	CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, ECB-Nr.: 01-2119472128-37-XXXX
	Eight hours: 1000 ppm, 1920 mg/m ³

DNEL

Range [%]	Substance
50 - < 75	Dimethyl ether, CAS: 115-10-6
	Industrial, inhalative, Long-term - systemic effects: 1894 mg/m ³ .
	general population, inhalative, Long-term - systemic effects: 471 mg/m ³ .

PNEC

Range [%]	Substance
50 - < 75	Dimethyl ether, CAS: 115-10-6
	sewage treatment plants (STP), 180 mg/l.
	soil, 0,045 mg/kg.
	sediment (seawater), 0,069 mg/kg.
	sediment (freshwater), 0,681 mg/kg.
	seawater, 0,016 mg/l.
	freshwater, 0,155 mg/l.

**8.2 Exposure controls**

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. In full contact: Butyl rubber, >480 min (EN 374). In splash contact Nitrile rubber, >480 min (EN 374).
Skin protection	not applicable
Other	Avoid contact with eyes and skin. Do not inhale aerosols. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, filter A.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	See SECTION 6+7.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Form	aerosol
Color	colourless
Odor	solvent-like
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not applicable
Flammability [°C]	not applicable
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	not applicable
Density [g/ml]	0,66
Bulk density [kg/m³]	not applicable
Solubility in water	immiscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not applicable
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not applicable

9.2 Other information

No information available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

**10.2 Chemical stability**

Stable under normal ambient conditions (ambient temperature).
Because of the high vapour pressure, containers are liable to burst if temperature rises.

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

Flammable gases/vapours.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Range [%]	Substance
≤ 2,5	N,N-dimethyl-p-toluidine, CAS: 99-97-8
	LD50, oral, Rat: 1650 mg/kg (Lit.).
	LC50, inhalative, Rat: 1,4 mg/l/4h (Lit.).
25 - < 50	Hydrocarbons, C6, isoalkanes, <5% n-hexane, CAS: 64742-49-0
	LD50, dermal, Rat: > 3000 mg/kg (OECD 402).
	LD50, oral, Rat: > 5000 mg/kg (OECD 401).
	LC50, inhalative, Rat: > 20 mg/l (4 h) (OECD 403).

Serious eye damage/irritation not determined

Skin corrosion/irritation not determined

Respiratory or skin sensitisation not determined

Specific target organ toxicity — single exposure not determined

Specific target organ toxicity — repeated exposure not determined

Mutagenicity not determined

Reproduction toxicity not determined

Carcinogenicity not determined

General remarks

The product was classified on the basis of the calculation procedure of the preparation directive.

Toxicological data of complete product are not available.

**SECTION 12: Ecological information****12.1 Toxicity**

Range [%]	Substance
≤ 2,5	N,N-dimethyl-p-toluidine, CAS: 99-97-8
	LC50, (96h), fish: 52 mg/l.
25 - < 50	Hydrocarbons, C6, isoalkanes, <5% n-hexane, CAS: 64742-49-0
	LC50, (48h), Daphnia magna: 3,87 mg/l.
	LC50, (48h), Oryzias latipes: > 1 mg/l.
	NOELR, (72h), Pseudokirchneriella subcapitata: 30 mg/l.
	ErL50, (72h), Pseudokirchneriella subcapitata: 55 mg/l.
50 - < 75	Dimethyl ether, CAS: 115-10-6
	LC50, (96h), Poecilia reticulata: > 4000 mg/l.
	EC50, (96h), Algae: 154,9 mg/l.
	EC50, (48h), Daphnia magna: > 4000 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not applicable
Biological degradability	not determined

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

Ecological data of complete product are not available.

No classification on the basis of the calculation procedure of the preparation directive.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.

Waste no. (recommended)

160504* gases in pressure containers (including halons) containing dangerous substances

Contaminated packaging

Untaminated packaging may be taken for recycling.

Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150110*

SECTION 14: Transport information**14.1 UN number**

See SECTION 14.2 in accordance with UN shipping name

**14.2 UN proper shipping name**

Transport by land according to ADR/RID UN 1950 AEROSOLS (ENVIRONMENTALLY HAZARDOUS) 2.1

- Classification Code 5F

- Label



- ADR LQ 1 I

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 2 (D)

Inland navigation (ADN)

UN 1950 AEROSOLS (ENVIRONMENTALLY HAZARDOUS) 2.1

- Classification Code 5F

- Label



Marine transport in accordance with IMDG

UN 1950 Aerosols (Solvent Naphtha) 2.1 - MARINE POLLUTANT

- EMS

F-D, S-U

- Label



- IMDG LQ

1 I

Air transport in accordance with IATA UN 1950 Aerosols, flammable 2.1

- Label

**14.3 Transport hazard class(es)**

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

No information available.

Relevant information under SECTION 6 to 8.

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

No information available.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS

1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC

TRANSPORT-REGULATIONS

DOT-Classification, ADR (2013); IMDG-Code (2013, 36. Amdt.); IATA-DGR (2013).

NATIONAL REGULATIONS (GB):

EH40/2005 Workplace exposure limits (Second edition, published December 2011).
CHIP 3/ CHIP 4

- Observe employment restrictions for people

Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
GENERAL REVIEW

- VOC (1999/13/CE)

99,8 %

**15.2 Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**16.1 R-phrases (SECTION 3)**

R 11: Highly flammable.
 R 38: Irritating to skin.
 R 65: Harmful - may cause lung damage if swallowed.
 R 67: Vapours may cause drowsiness and dizziness.
 R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R 12: Extremely flammable.
 R 23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
 R 33: Danger of cumulative effects.
 R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.2 Hazard statements (SECTION 3)

H412 Harmful to aquatic life with long lasting effects.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
 H280 Contains gas under pressure; may explode if heated.
 H220 Extremely flammable gas.
 H411 Toxic to aquatic life with long lasting effects.
 H336 May cause drowsiness or dizziness.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H225 Highly flammable liquid and vapour.

16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 TLV@TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.4 Other information**Customs Tariff**

not determined

Classification procedure

Aerosol 1: H222 Extremely flammable aerosol. (Bridging principle "Aerosols") H229
 Pressurised container: May burst if heated. (Bridging principle "Aerosols")
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
 STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)
 Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)



Modified position

none

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