



Article number 1-01032

MULTIPLEX Modellsport GmbH & Co. KG

75015 Bretten-Gölshausen/Deutschland

Date printed 27.06.2019, Revision 16.08.2018

Version 05. Supersedes version: 04

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

Zackivator

Article number: 1-01032

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

MULTIPLEX Modellsport GmbH & Co. KG
 Westliche Gewerbestr. 1
 75015 Bretten-Gölshausen/Deutschland
 Phone 07252 / 580930
 Fax
 Homepage
 E-mail

Address enquiries to
Technical information
Safety Data Sheet

info@chemiebuero.de

1.4 Emergency telephone number
Advisory body

+49 (0)551-19240

Company

GIZ-NORD

SECTION 2: Hazards identification
2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

Aerosol 1: H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.

Eye Irrit. 2: H319 Causes serious eye irritation.

STOT SE 3: H336 May cause drowsiness or dizziness.



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2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms



Signal word

DANGER

Contains:

Acetone

Hazard statements

H222 Extremely flammable aerosol.
 H229 Pressurised container: May burst if heated.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.

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.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear eye protection / face protection.
 P337+P313 If eye irritation persists: Get medical advice / attention.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/national regulation.

Special labelling

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Other hazards

Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
50 - < 70	Dimethyl ether
	CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, Reg-No.: 01-2119472128-37-XXXX
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
30 - 40	Acetone
	CAS: 67-64-1, EINECS/ELINCS: 200-662-2, EU-INDEX: 606-001-00-8, Reg-No.: 01-2119471330-49-XXXX
	GHS/CLP: Flam. Liq. 2: H225 - Eye Irrit. 2: H319 - STOT SE 3: H336
< 0,2	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

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: see SECTION 16.



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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 medical treatment.
Skin contact	In case of contact with skin wash off immediately with soap and water. Consult a doctor if skin irritation persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
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 needed

Treat 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 mixture

Risk of formation of toxic pyrolysis products.
Bursting aerosols can be forcibly projected from a fire.

5.3 Advice for firefighters

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.
Use personal protective equipment.

6.2 Environmental precautions

not applicable

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Take up residues with absorbent material (e.g. sand, sawdust, general purpose binder, diatomaceous earth).
Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections

See SECTION 8+13



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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid spilling or spraying in enclosed areas.
Use solvent-resistant equipment.
Keep away from all sources of ignition - Refrain from smoking.
Vapours can form an explosive mixture with air.
Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Use barrier skin cream.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash before reuse.

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



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

Substance
Dimethyl ether
CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, Reg-No.: 01-2119472128-37-XXXX
Long-term exposure: 400 ppm, 766 mg/m ³
Short-term exposure (15-minute): 500 ppm, 958 mg/m ³
Acetone
CAS: 67-64-1, EINECS/ELINCS: 200-662-2, EU-INDEX: 606-001-00-8, Reg-No.: 01-2119471330-49-XXXX
Long-term exposure: 500 ppm, 1210 mg/m ³
Short-term exposure (15-minute): 1500 ppm, 3620 mg/m ³

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Dimethyl ether
CAS: 115-10-6, EINECS/ELINCS: 204-065-8, EU-INDEX: 603-019-00-8, Reg-No.: 01-2119472128-37-XXXX
Eight hours: 1000 ppm, 1920 mg/m ³
Acetone
CAS: 67-64-1, EINECS/ELINCS: 200-662-2, EU-INDEX: 606-001-00-8, Reg-No.: 01-2119471330-49-XXXX
Eight hours: 500 ppm, 1210 mg/m ³

DNEL

Substance
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 .
N,N-dimethyl-p-toluidine, CAS: 99-97-8
Industrial, inhalative, Long-term - systemic effects: 1.224 mg/m ³ (AF= 60).
Industrial, dermal, Long-term - systemic effects: 0.694 mg/kg bw/d.
general population, oral, Long-term - systemic effects: 0.174 mg/ kg bw/d (AF=120).
general population, dermal, Long-term - systemic effects: 0.347 mg/ kg bw/d (AF=120).
general population, inhalative, Long-term - systemic effects: 0.302 mg/m ³ (AF=120).
Acetone, CAS: 67-64-1
Industrial, inhalative, Long-term - local effects: 2420 mg/m ³ .
Industrial, dermal, Long-term - systemic effects: 186 mg/kg bw/d.
Industrial, inhalative, Long-term - systemic effects: 1210 mg/m ³ .
general population, oral, Long-term - systemic effects: 62 mg/kg bw/day.
general population, dermal, Long-term - systemic effects: 62 mg/kg bw/day.
general population, inhalative, Long-term - systemic effects: 200 mg/m ³ .

PNEC

Substance
Dimethyl ether, CAS: 115-10-6
seawater, 0,016 mg/l.
sewage treatment plants (STP), 160 mg/L.
soil, 0,045 mg/kg dw.
freshwater, 0,155 mg/l.
sediment (freshwater), 0,681 mg/kg dw.



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sediment (seaater), 0,0681 mg/kg dw.
N,N-dimethyl-p-toluidine, CAS: 99-97-8
soil, 18,68 mg/kg dw.
sediment (seaater), 45.378 mg/kg dw.
sediment (freshwater), 45.378 mg/kg dw.
sewage treatment plants (STP), 4.286 mg/L (AF=10).
seawater, 0.015mg/L (AF=1000).
freshwater, 0.153 mg/L (AF=100).
Acetone, CAS: 67-64-1
sediment (seaater), 3,04 mg/kg.
freshwater, 10,6 mg/l.
seawater, 1,06 mg/l.
sediment (freshwater), 30,4 mg/kg.
soil, 29,5 mg/kg.
sewage treatment plants (STP), 100 mg/l.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. In full contact: > 0,5 mm; Butyl rubber, >480 min (EN 374-1/-2/-3). In splash contact: > 0,5 mm; Butyl rubber, >120 min (EN 374-1/-2/-3).
Skin protection	Solvent-resistant protective clothing.
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Do not inhale gases/vapours/aerosols. Avoid contact with eyes and skin.
Respiratory protection	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, combination filter A-P1. (DIN EN 14387)
Thermal hazards	not determined
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.



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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	aerosol
Color	clear
Odor	like acetone
Odour threshold	not determined
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	No information available.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not applicable
Density [g/ml]	0,703
Bulk density [kg/m ³]	not applicable
Solubility in water	not applicable
Partition coefficient [n-octanol/water]	No information available.
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).

10.3 Possibility of hazardous reactions

Risk of bursting.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Strong oxidizing agent.

10.6 Hazardous decomposition products

Flammable gases/vapours.



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

Product
ATE-mix, oral, 58 582 mg/kg bw.
ATE-mix, inhalative, 1757 mg/l/4h.
ATE-mix, dermal, 175 747 mg/kg bw.
Substance
Dimethyl ether, CAS: 115-10-6
LC50, inhalative, Rat: 164000 ppm (4 h).
N,N-dimethyl-p-toluidine, CAS: 99-97-8
LD50, dermal, Rabbit: > 2000 mg/kg.
LD50, oral, mouse: 139 mg/kg.
LD50, oral, Rat: 1767 mg/kg.
LC50, inhalation (vapour), Rat: 1,4 mg/l/4h.
Acetone, CAS: 67-64-1
LD50, dermal, Rabbit: > 15800 mg/kg.
LD50, oral, Rat: 5800 mg/kg (OECD 401).
LC50, inhalative, Rat: 76 mg/l (4h).

Serious eye damage/irritation

Toxicological data of complete product are not available.

Irritant

Calculation method

Skin corrosion/irritation

Based on the available information, the classification criteria are not fulfilled.

Respiratory or skin sensitisation

Based on the available information, the classification criteria are not fulfilled.

Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — single exposure

Toxicological data of complete product are not available.

Vapours may cause drowsiness and dizziness.

Calculation method

Specific target organ toxicity — repeated exposure

Based on the available information, the classification criteria are not fulfilled.

Mutagenicity

Based on the available information, the classification criteria are not fulfilled.

Reproduction toxicity

Based on the available information, the classification criteria are not fulfilled.

Carcinogenicity

Based on the available information, the classification criteria are not fulfilled.

Aspiration hazard

Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.



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SECTION 12: Ecological information**12.1 Toxicity**

Product
Based on the available information, the classification criteria are not fulfilled.:
Substance
Dimethyl ether, CAS: 115-10-6
LC50, (96h), Poecilia reticulata: > 4000 mg/l.
EC50, (48h), Daphnia magna: > 4000 mg/l.
EC50, (96h), Pseudokirchneriella subcapitata: 154,917 mg/l.
N,N-dimethyl-p-toluidine, CAS: 99-97-8
LC50, (96h), Pimephales promelas: 46-52 mg/l.
Acetone, CAS: 67-64-1
LC50, (48h), Daphnia pulex: 8800 mg/l.
LC50, (96h), Oncorhynchus mykiss: 5540 mg/l.
NOEC, (96h), Algae: 430 mg/l.

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Ecological data of complete product are not available.

Do not discharge product unmonitored into the environment or into the drainage.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.



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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

Uncontaminated 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

Transport by land according to ADR/RID 1950

Inland navigation (ADN) 1950

Marine transport in accordance with IMDG 1950

Air transport in accordance with IATA 1950

14.2 UN proper shipping name

Transport by land according to ADR/RID Aerosols

- 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) Aerosols

- Classification Code 5F

- Label



Marine transport in accordance with IMDG Aerosols

- EMS F-D, S-U

- Label



- IMDG LQ 1 I

Air transport in accordance with IATA Aerosols, flammable

- Label





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14.3 Transport hazard class(es)

Transport by land according to ADR/RID 2

Inland navigation (ADN) 2

Marine transport in accordance with IMDG 2.1

Air transport in accordance with IATA 2.1

14.4 Packing group

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL 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 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2018).

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011).

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

- **VOC (2010/75/CE)** 99,8 %
701,8 g/l

15.2 Chemical safety assessment

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



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SECTION 16: Other information**16.1 Hazard statements
(SECTION 03)**

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.
 H336 May cause drowsiness or dizziness.
 H319 Causes serious eye irritation.
 H225 Highly flammable liquid and vapour.
 H280 Contains gas under pressure; may explode if heated.
 H220 Extremely flammable gas.

16.2 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
 ATE = acute toxicity estimate
 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
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 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

16.3 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")
 Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
 STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)

Modified position

SECTION 8 been added: Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.



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