

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

1.1 Product identifier

Trade name: DC-SPRAYER including cartridge

Article number: YC44

Registration number

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Application of the substance / the mixture Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Carl Roth GmbH + Co. KG
Schoemperlenstraße 3-5
76185 Karlsruhe
Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: sicherheit@carlroth.de

Further information obtainable from: Department Health, Safety and Environment

1.4 Emergency telephone number:

Poison Centre Munich

Telefon +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

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

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

F+; Extremely flammable

R12: Extremely flammable.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02

Signal word Danger

Hazard statements

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

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

P211 Do not spray on an open flame or other ignition source.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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Additional information:

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

2.3 Other hazards

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment







PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:			
CAS: 115-10-6 EINECS: 204-065-8 Index Number: 603-019-00-8	dimethyl ether	 F+ R12  Flam. Gas 1, H220; Press. Gas, H280	25-50%
CAS: 75-28-5 EINECS: 200-857-2 Index Number: 601-004-00-0	isobutane	 F+ R12  Flam. Gas 1, H220; Press. Gas, H280	25-50%
CAS: 74-98-6 EINECS: 200-827-9 Index Number: 601-003-00-5	propane	 F+ R12  Flam. Gas 1, H220; Press. Gas, H280	10-<25%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

**4.1 Description of first aid measures**

General information: May cause extreme cold and frost bite on contact.

After inhalation:

Take affected persons into fresh air and keep quiet.

If breathing is difficult, give oxygen. Seek medical treatment.

After skin contact:

Rinse with warm water.

In cases of frost bites, rinse with plenty of water. Do not remove clothing.

Seek medical treatment.

After eye contact:

Rinse opened eye for 10 minutes under running water. Then consult a doctor.

After swallowing:

Ingestion is unlikely to occur.

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4.2 Most important symptoms and effects, both acute and delayed

Frost bites
Irritations
Disziness
Headache
Nausea
Vomiting

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing agents: CO₂, powder, foam or water spray.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures.

In the event of fire development of hazardous combustion gases or vapours possible.

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained respiratory protective device.

Additional information

Pressurized container: May burst when heated up to 50 °C.

Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid contact with the eyes and skin.

Do not breathe vapour/spray.

Keep away from ignition sources.

6.2 Environmental precautions Avoid penetration into drainage system because of danger of explosion.

6.3 Methods and material for containment and cleaning up

Allow to evaporate.

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 disposal information.

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

Ensure good ventilation/exhaustion at the workplace.

Do not spray on an open flame or other ignition source.

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Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Observe official regulations on storing packagings with pressurised containers.

Information about storage in one common storage facility:

Store away from foodstuffs.

Further information about storage conditions:

Store receptacle in a well ventilated area.

Keep ignition sources away - Do not smoke.

Protect from heat and direct sunlight.

Maximum storage temperature: < 50 °C**7.3 Specific end use(s)**

No further relevant information available.

SECTION 8: Exposure controls/personal protection**Additional information about design of technical facilities:**

No further data; see item 7.

8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:****115-10-6 dimethyl ether**

WEL (Great Britain)	Short-term value: 958 mg/m ³ , 500 ppm Long-term value: 766 mg/m ³ , 400 ppm
IOELV (EU)	Long-term value: 1920 mg/m ³ , 1000 ppm

Additional information:

The lists valid during the making were used as basis.

8.2 Exposure controls**Personal protective equipment:****General protective and hygienic measures:**

Do not eat, drink or smoke while working.

Avoid contact with the eyes and skin.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

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Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.
Filter AX (colour code: brown)

Protection of hands:

Insulation gloves

Material of gloves Leather gloves to prevent injuries and frost bites.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

Body protection:

Antistatic and flame-retardent clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties**General Information****Appearance:**

Form:	Aerosol
Colour:	Colourless
Odour:	Ether-like
Odour threshold:	No information available.

pH-value: No information available.

Change in condition

Melting point/Melting range:	No information available.
Boiling point/Boiling range:	-42 °C

Flash point: -104 °C

Flammability (solid, gaseous): No information available

Ignition temperature: No information available

Decomposition temperature: No information available

Self-igniting: No information available

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Danger of explosion:	No information available
Explosion limits:	
Lower:	No information available.
Upper:	No information available.
Oxidizing properties:	No information available.
Vapour pressure:	No information available
Density:	No information available.
Vapour density	No information available
Evaporation rate	No information available
Solubility in / Miscibility with water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	< 3 log POW (Lit.)
Viscosity:	
Dynamic:	No information available.
Kinematic:	No information available.
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Contact with the below mentioned substances may cause violent reactions or an explosion.

Acetylene

halogens

Strong acids

Strong oxidizing agents

lithium aluminium hydride

10.4 Conditions to avoid

Heat, flammes and sparks

10.5 Incompatible materials:

No information available.

10.6 Hazardous decomposition products:

In case of fire: see item 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

Quantitative data on the toxicity of this product are not available.

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115-10-6 dimethyl ether		
Inhalative	LC ₅₀ /4 h	308 mg/l (rat)

Primary irritant effect:**on the skin:**

Frost bites

on the eye:

May cause temporary discomfort.

Slight irritations

after inhalation:

Absorption

Headache, dizziness

Sensitisation:

No sensitising effects known.

CMR effects:**Germ cell mutagenicity:**

No information available.

Carcinogenicity:

No information available.

Reproductive toxicity:

No information available.

Aspiration hazard:

No aspiration toxicity classification.

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:After absorption:

CNS-disorders

Nausea

Vomiting

Unconsciousness

Further information:

The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:**

Quantitative data on the ecological effect of this product are not available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected (log POW ≤4).

12.4 Mobility in soil

No further relevant information available.

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Ecotoxicological effects:**Remark:**

Do not allow to enter waters, waste water, or soil!

12.5 Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

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

This material and its container must be disposed of as hazardous waste.

The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

Uncleaned packaging:**Recommendation:**

Do not pierce or burn, even after use.

Disposal according to official regulations.

SECTION 14: Transport information**14.1 UN-Number****ADR, IMDG, IATA**

UN1950

14.2 UN proper shipping name**ADR
IMDG
IATA**1950 AEROSOLS
AEROSOLS
AEROSOLS, flammable**14.3 Transport hazard class(es)****ADR****Class
Label**2 5F Gases.
2.1**IMDG, IATA****Class
Label**2.1
2.1

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14.4 Packing group	
ADR, IMDG, IATA	Void
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Warning: Gases.
Danger code (Kemler):	-
EMS Number:	F-D,S-U
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
Transport category	2
Tunnel restriction code	D
IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
UN "Model Regulation":	UN1950, AEROSOLS, 2.1

SECTION 15: Regulatory information

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

National regulations:

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Breakdown regulations:

Class	Share in %
NK	71.5

Waterhazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

R12 Extremely flammable.

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Department issuing MSDS: Department: Health, Safety and Environment**Contact:** Frau Weckemann**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

LD50*: Lethal Dose, 50 percent (Not relevant for classification)

LD50*: Lethal Concentration, 50 percent (Not relevant for classification)

Flam. Gas 1: Flammable gases, Hazard Category 1

Flam. Aerosol 1: Flammable aerosols, Hazard Category 1

Press. Gas: Gases under pressure: Compressed gas

*** Data compared to the previous version altered.**

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