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Material Safety Data Sheet

Type 1003

according to 91/155 EC & 93/112 EWG

1 Identification of the Product and of the Company

Product details/
Trade name: **Kistler Type 1003 Cleaning Spray, 250ml (AEROSOL)**

Application of the preparation: Cleaning material/Detergent

Manufacturer/Supplier:
Kistler Instrumente AG, Eulachstrasse 22
CH-8408 Winterthur, Switzerland
Tel.: +41 52 224 11 11, Fax: +41 52 224 14 14
info@kistler.com, www.kistler.com

Information in case of emergency:
+41 79 776 89 35 or
Swiss Toxic and Informations Center
CH-8030 Zürich, +41 44 251 51 51

2 Composition/Information on Ingredients

Chemical characterization
Description:
- Active liquid substance with propellant.

Dangerous components

CAS: 109-66-0 EINECS: 203-692-4	Pentane	Xn, F+, N; R 12-51/53-65-66-67	50 ... 100 %
CAS: 74-98-6 EINECS: 200-827-9	Propane liquefied	F+; R 12	10 ... 25 %
CAS: 110-82-7 EINECS: 203-806-2	Cyclohexane	Xn, F, N; R 11-38-50/53-65-67	10 ... 25 %
CAS: 75-28-5 EINECS: 200-857-2	Isobutane	F+; R 12	2,5 ... 10 %

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

3 Hazards identification

Hazard description:

- Extremely flammable
- Dangerous for the environment

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Information pertaining to particular dangers for man and environment:

- ATTENTION !!!
  The marking is valid for all pressurized containers above 50ml carrying capacity.
  The product has to be labelled due to the calculation procedure of the „General Classification guideline for preparations of the EU“ in the latest valid version.
- Warning! Pressurized container.
- Has a narcotizing effect.
- R 12 Extremely flammable.
- 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.
- Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C.
- Do not pierce or burn, even after use.
- 100,0 % by mass of the contents are flammable.
- Keep out of the reach of children.

Classification system:

- The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First Aid Measures

General information:

- Instantly remove any clothing soiled by the product.

After inhalation:

- Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
- In case of unconsciousness bring patient into stable side position for transport.

After skin contact:

- Instantly wash with water and soap and rinse thoroughly.
- If skin irritation continues, consult a doctor.

After eye contact:

- Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

After swallowing:

- In case of persistent symptoms consult doctor.

5 Fire Fighting Measures

Suitable extinguishing agents:

- CO2, extinguishing powder or water spray jet. Fight larger fire with alcohol-resistant foam.

Special hazards caused by the material, its products of combustion or resulting gases:

- Formation of toxic gases is possible during heating or in case of fire.

Protective equipment:

- Put on breathing apparatus.
- Do not inhale explosion gases or combustion gases.

Additional information:

- Cool endangered containers with water spray jet.

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6 Accidental Release Measures

Person-related safety precautions:
- Wear protective equipment. Keep unprotected persons away.
- Ensure adequate ventilation.
- Keep away from ignition sources.

Measures for environmental protection:
- Inform respective authorities in case product reaches water or sewage system.
- Do not allow to enter drainage system, surface or ground water.

Measures for cleaning/collecting:
- Ensure adequate ventilation.
- Do not flush with water or aqueous cleansing agents.
- Absorb liquid components with liquid-binding material.
- Dispose of the material collected according to regulations.

Additional information:
- See Section 7 for information on safe handling.

7 Handling and Storage

Handling

Information for safe handling:
- Store in cool, dry place in tightly closed containers.
- Keep away from heat and direct sunlight.
- Open and handle container with care.

Information about protection against explosions and fires:
- Keep ignition sources away – Do not smoke.
- Protect against electrostatic charges.
- Beware: Container is pressurized. Keep away from direct sun exposure and temperatures over 50°C. Do not open by force or throw into fire even after use.
- Do not spray on flames or red-hot objects.

Storage

Requirements to be met by storerooms and containers:
- Store in cool location.
- Store only in the original container.
- Observe official regulations on storing packagings with pressurized containers.

Information about storage in one common storage facility:
- Store away from foodstuffs.

Further information about storage conditions:
- Store in cool, dry conditions.
- Protect from heat and direct sunlight.

Germany: Classification according to BetrSichV: not classified.

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8 Exposure Control/Personal Protection

Additional information about design of technical systems:
- No further data; see item 7.

Components with limit values that require monitoring at the workplace

109-66-0 Pentane	MAK (Germany)		3 000 mg/m³, 1 000 ml/m³ DFG
	MAK (Austria)	Short therm:	3 600 mg/m³, 1 200 ml/m³
		Long therm:	1 800 mg/m³, 600 ml/m³
74-98-6 Propane	MAK (Germany)		1 800 mg/m³, 1 000 ml/m³ DFG
	MAK (Austria)	Short therm:	3 600 mg/m³, 2 000 ml/m³
		Long therm:	1 800 mg/m³, 1 000 ml/m³
110-82-7 Cyclohexane	MAK (Germany)		700 mg/m³, 200 ml/m³ DFG
	MAK (Austria)	Short therm:	2 110 mg/m³, 600 ml/m³
		Long therm:	1 050 mg/m³, 300 ml/m³
75-28-5 Isobutane	MAK (Germany)		2 400 mg/m³, 1 000 ml/m³ DFG
	MAK (Austria)	Short therm:	3 800 mg/m³, 1 600 ml/m³
		Long therm:	1 900 mg/m³, 800 ml/m³

- Additional information: The lists that were valid during the compilation were used as basis.

Personal protective equipment

General protective and hygienic measures:
- The usual precautionary measures should be adhered to general rules for handling chemicals.
- Wash hands during breaks and at the end of the work.

Breathing equipment:
- Use breathing protection in case of insufficient ventilation.

Protection of hands:
- With appropiate application necessarily, however to carry protective gloves does recommend.
- The glove material has to be impermeable and resistant to the product.
- Due to missing tests no recommendation to the glove material can be given for the product.
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves:
- The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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 safety glasses.

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9 Physical and Chemical Properties

General Information

• Form:	Aerosol
• Colour:	According to product specification
• Odour:	Slightly gasoline-like
Change in condition	
• Melting point/Melting range:	Not determined
• Boiling point/Boiling range:	–44 °C
Flash point:	–97 °C
Ignition temperature:	260 °C
Self-inflammability:	Product is not self igniting
Danger of explosion:	Product is not explosive. However, formation of explosive air/ vapour mixtures is possible

Critical values for explosion

• Lower:	1,2 Vol %
• Upper:	9,5 Vol %
Vapour pressure at 20 °C:	573 hPa
Density at 20 °C:	0,515 g/cm³
Solubility in/Miscibility with Water:	Not miscible
Solvent content:	
• Organic solvents:	91,4 %

10 Stability and Reactivity

Thermal decomposition/Conditions to be avoided:
- Protect from heat and direct sunlight.

Dangerous reactions:
- No dangerous reactions with intended storage and use.

Dangerous products of decomposition:
- none.

11 Toxicological Information

Acute toxicity

LD/LC50 values that are relevant for classification:
- 110-82-7 cyclohexane
  Oral LD50 12705 mg/kg (rat)

Primary irritant effect

on the skin:
- no data available.

on the eye:
- no data available.

Sensitization:
- No sensitizing effect known.

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12 Ecological Information

Ecotoxical effects:
- Remark: Toxic for fish.

General notes:
- Toxic for aquatic organisms.
- Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
- Do not allow large quantities of it to reach ground water, water bodies or sewage systems.

13 Disposal Considerations

Product

Recommendation:
- Must not be disposed of together with household garbage. Hand over to disposers of hazardous waste. Disposal must be made according to official regulations.

Uncleaned packagings:
- Recommendation:
  Disposal must be made according to official regulations.

14 Transport Information

Land transport ADR/RID (cross-border):	
ADR/RID-GGVS/E Class	2 5F Gases
Kemler Number	23
UN Number	1950
Packaging group	–
Label	2.1
Designation of goods	1950 AEROSOLS
Maritime transport IMDG:	
IMDG Class	2.1
UN Number	1950
Label	2.1
Packaging group	–
EMS Number	F-D,S-U
Marine pollutant	No
Correct technical name	AEROSOLS
Air transport ICAO-TI und IATA-DGR:	
ICAO/IATA Class	2.1
UN/ID Number	1950
Label	2.1
Packaging group	–
Correct technical name	AEROSOLS, flammable

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15 Regulatory Information

Designation according to EC guidelines:

- The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

Code letter and hazard designation of product:

F+ Extremely flammable
N Dangerous for the environment

Risk phrases:

- 12 Extremely flammable.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 67 Vapours may cause drowsiness and dizziness.

Safety phrases:

- 16 Keep away from sources of ignition – No smoking.
- 29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
- 33 Take precautionary measures against static discharges.
- 43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
- 46 If swallowed, seek medical advice immediately and show this container or label.
- 51 Use only in well-ventilated areas.

Special designation of certain preparations:

- Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
- 100,0 % by mass of the contents are flammable.
- Keep out of the reach of children.

National regulations

Germany: Classification according to BetrSichV: not classified

Technical instructions (air):

Class	Share in %
III	50 ... 100

Water hazard class:

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

16 Other Information

Information is based on our current knowledge but does not establish a promise of product characteristics and does not substantiate any contractual legal relationship.

Relevant R-phrases

- 11 Highly flammable.
- 12 Extremely flammable.
- 38 Irritating to skin.
- 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 65 Harmful: may cause lung damage if swallowed.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

- **Information in case of emergency: +41 79 776 89 35** or Swiss Toxic and Informations Center CH-8030 Zürich **+41 44 251 51 51**