

Safety Data Sheet according to HPR, Schedule 1

Printing date 05/27/2025

Reviewed on 05/27/2025

* 1 Identification

Product identifier
Trade name: Cleaning spray type 1003
Application of the substance / the mixture

Special cleaning agent for highly insulating parts such as plug connections and electronic components

Details of the supplier of the safety data sheet
Manufacturer/Supplier:

 Kistler Instrument Corp.
 75 John Glenn Drive, NY 14228-2171 Amherst, United States

Information department:

+1 716 691 5100

Monday to Friday 7 am – 5 pm (EST)

Emergency telephone number: Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

* 2 Hazard identification

Classification of the substance or mixture


GHS02 Flame

Aerosols, Section 2.3.1 – Category 1

H222-H229 Extremely flammable aerosol. Pressurized container: may burst if heated.



GHS08 Health hazard

Aspiration Hazard - Category 1

H304

May be fatal if swallowed and enters airways.



GHS09 Environment

Aquatic Chronic 2

H411

Toxic to aquatic life with long lasting effects.



GHS07

Skin Irritation - Category 2

H315

Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure - Category 3

H336

May cause drowsiness or dizziness.

Aquatic Acute 2

H401

Toxic to aquatic life.

Label elements
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms GHS02, GHS07, GHS08, GHS09

Signal word Danger

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Hazard-determining components of labeling:

pentane
cyclohexane

Hazard statements

Extremely flammable aerosol.
Causes skin irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Toxic to aquatic life with long lasting effects.

Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves.
If swallowed: Immediately call a poison center/doctor.
Specific treatment (see on this label).
Do NOT induce vomiting.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a poison center/doctor if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
Collect spillage.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Classification system:**NFPA ratings (scale 0 - 4)****HMIS-ratings (scale 0 - 4)**

* 3 Composition/Information on ingredients

Chemical characterization: Mixtures**Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 109-66-0	pentane	50-100% w/w *
CAS: 110-82-7	cyclohexane	15-20% w/w *
CAS: 106-97-8	butane, pure	10-15% w/w *
CAS: 74-98-6	propane	5-10% w/w *
CAS: 75-28-5	isobutane	1-5% w/w *

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* Actual concentration ranges are withheld as a trade secret.

* 4 First-aid measures

Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Irritation. Repeated contact can lead to brittle or cracked skin.

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

If symptoms persist consult doctor.

Do not induce vomiting! Rinse mouth and drink plenty of water.

Information for doctor:

Most important symptoms and effects, both acute and delayed May cause drowsiness and dizziness

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

* 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture Extremely flammable aerosol

Advice for firefighters

Protective equipment:

Use self-contained breathing apparatus. Wear protective clothing to prevent eye or skin contact.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

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.

* 7 Handling and storage

Handling:

Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.

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Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store in a cool and well-ventilated place. Keep away from sources of ignition. Keep away from direct sunlight. Ensure that lighting and electrical equipment are not sources of ignition.

Observe official regulations on storing packagings with pressurized containers.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

* 8 Exposure controls/ Personal protection

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

Control parameters

Components with limit values that require monitoring at the workplace:

CAS: 109-66-0 pentane

EL	TWA: 1000 ppm
EV	STEL: 2,210 mg/m ³ , 750 ppm TWA: 1,770 mg/m ³ , 600 ppm

CAS: 110-82-7 cyclohexane

EL	TWA: 100 ppm
EV	TWA: 100 ppm

CAS: 106-97-8 butane, pure

EL	STEL: 1000 ppm EX
EV	TWA: 800 ppm revoked as of 01/01/18

CAS: 74-98-6 propane

EL	Simple asphyxiant; EX
EV	TWA: 1,000 ppm revoked as of 01/01/18

CAS: 75-28-5 isobutane

EL	STEL: 1000 ppm EX
EV	TWA: 800 ppm revoked as of 01/01/18

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

Respiratory protection recommended when the TLV limit is exceeded .

If ventilation is inadequate, wear a respirator. Suitable respiratory protection: Filter type A for organic gases and vapors.

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Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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.

For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:

Butyl rubber, BR

For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)

Butyl rubber, BR

Nitrile rubber, NBR

Not suitable are gloves made of the following materials: PVC gloves

Eye protection: Not required.

Body protection: Protective work clothing

* 9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Aerosol
Color:	Opaque
Odor:	Solvent-like

pH-value: Mixture is a gas.

Change in condition

Boiling point/Boiling range: Not applicable, as aerosol.

Flash point: Not applicable, as aerosol.

Flammability: Not applicable.

Ignition temperature: Product is not selfigniting.

Danger of explosion: Pressurized container: May burst when heated.

Explosion limits:

Lower:	1.2 Vol %
Upper:	9.5 Vol %

Vapor pressure at 20 °C: 8300 hPa

Density: Not determined.

Relative density Not determined.

Vapor density Not determined.

Evaporation rate Not applicable.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

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Other information	No further relevant information available.
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* 10 Stability and reactivity

Reactivity Extremely flammable aerosol. Pressurized container: May burst if heated.**Chemical stability** The product is stable under normal conditions.**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid**

Avoid contact with hot surfaces. Heat. No naked flames, no sparks. Remove all sources of ignition.

Incompatible materials: No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

* 11 Toxicological information

Information on toxicological effects**Acute toxicity:****LD/LC50 values that are relevant for classification:****CAS: 110-82-7 cyclohexane**

Oral	LD50	12705 mg/kg (rat)
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CAS: 106-97-8 butane, pure

Inhalative	LC50/4 h	658 mg/l (rat)
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Primary irritant effect:**on the skin:** Irritant to skin and mucous membranes.**on the eye:** No irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

Carcinogenic categories**IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

* 12 Ecological information

Toxicity**Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Toxic for fish**Other information:** Do not discharge into drains, surface waters or groundwater.**Additional ecological information:****General notes:**

Do not allow product to reach ground water, water course or sewage system.

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Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Water hazard class 2 (Self-assessment): hazardous for water
Toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

*13 Disposal considerations

Waste treatment methods

Recommendation:

Must be specially treated adhering to official regulations.




Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Waste disposal key: 16 05 04 - Gases in pressure containers (including halons) containing dangerous substances

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

*14 Transport information

UN-Number DOT/TDG, ADR, IMDG, IATA	UN1950
UN proper shipping name DOT/TDG ADR IMDG IATA	Aerosols, non-flammable 1950 Aerosols, ENVIRONMENTALLY HAZARDOUS AEROSOLS AEROSOLS, flammable
Transport hazard class(es) DOT/TDG (Transport dangerous goods): 	
Class Label	2.1 2.1
ADR 	
Class Label	2 5F 2.1
IMDG, IATA 	
Class	2.1

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Label	2.1
Packing group DOT/TDG, ADR, IMDG, IATA	Void
Environmental hazards:	Product contains environmentally hazardous substances: cyclohexane
Marine pollutant:	No
Special precautions for user Hazard identification number (Kemler code): - EMS Number: Stowage Code	Warning: Gases F-D,S-U SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
Segregation Code	SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
IMDG Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E0 Not permitted as Excepted Quantity
UN "Model Regulation":	UN 1950 AEROSOLS, 2.2, ENVIRONMENTALLY HAZARDOUS

* 15 Regulatory information

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

No further relevant information available.

Sara

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

CAS: 110-82-7 | cyclohexane

TSCA (Toxic Substances Control Act):

pentane	ACTIVE
cyclohexane	ACTIVE
butane, pure	ACTIVE
propane	ACTIVE
isobutane	ACTIVE

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Canadian substance listings:**Canadian Domestic Substances List (DSL)**

All ingredients are listed.

Canadian Non-Domestic Substances List (NDSL)

None of the ingredients is listed.

Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

Canadian Ingredient Disclosure list (limit 1%)

CAS: 109-66-0 pentane

CAS: 110-82-7 cyclohexane

CAS: 106-97-8 butane, pure

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms** GHS02, GHS07, GHS08, GHS09**Signal word** Danger**Hazard-determining components of labeling:**

pentane

cyclohexane

Hazard statements

Extremely flammable aerosol.

Causes skin irritation.

May cause drowsiness or dizziness.

May be fatal if swallowed and enters airways.

Toxic to aquatic life with long lasting effects.

Precautionary statements

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

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

Do not pierce or burn, even after use.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves.

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a poison center/doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

Collect spillage.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

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

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.***16 Other information**

The information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes.

Liability for consequential damage resulting from the use of Kistler products is excluded.

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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.

Contact:**Date of the latest revision of the safety data sheet** 05/27/2025 / 2**Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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