

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

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

- **1.1 Product identifier**
- **Trade name:** KREUL Layout and assambly spray 400 ml
- **Article number:** 880400
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Adhesives
For artists and hobby user.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
C. KREUL GmbH & Co. KG
Carl-Kreul-Straße 2
D-91352 HALLERNDORF
DEUTSCHLAND
Tel. + 49 (0)9545 / 925 - 0
Fax + 49 (0)9545 / 925 - 511
E-Mail: info@c-kreul.de
- **Further information obtainable from:**
Product Safety Department:
Treiber, b.treiber@c-kreul.de
- **1.4 Emergency telephone number:** +44 (0)171 635 91 91

2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

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



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

- **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



GHS07



GHS09

- **Signal word** Danger

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 1)

- **Hazard-determining components of labelling:**

pentane
hexane (containing < 5 % n-hexane (203-777-6))

- **Hazard statements**

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

- **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
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.
P271 Use only outdoors or in a well-ventilated area.
P312 Call a POISON CENTER/doctor if you feel unwell.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**

- **Description:** Active substance with propellant

- **Dangerous components:**

CAS: 109-66-0 EINECS: 203-692-4 Index number: 601-006-00-1	pentane ⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H336	25–75%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5	propane ⚠ Flam. Gas 1, H220; Press. Gas C, H280	10–20%
CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0	butane ⚠ Flam. Gas 1, H220; ⚠ Acute Tox. 3, H331; Press. Gas C, H280	10–20%
CAS: 107-83-5 EINECS: 203-523-4 Index number: 601-007-00-7	hexane (containing < 5 % n-hexane (203-777-6)) ⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	3–<10%
CAS: 64742-49-0 EINECS: 265-151-9 Index number: 649-328-00-1	Naphtha (petroleum), hydrotreated light ⚠ Flam. Liq. 1, H224; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H336	2.5%

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

4 First aid measures

- **4.1 Description of first aid measures**

- **General information:** Immediately 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 place patient stably in side position for transportation.

Seek immediate medical advice.

- **After skin contact:**

If skin irritation continues, consult a doctor.

Wash with water and acidic soap.

- **After eye contact:**

Remove contact lenses.

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

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

Administer medicinal carbon.

A person vomiting while laying on their back should be turned onto their side.

Seek immediate medical advice.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 2)

- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed or in case of vomiting, danger of entering the lungs.

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Use respiratory protective device against the effects of fumes/dust/aerosol.
Keep away from ignition sources.
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Keep contaminated washing water and dispose of appropriately.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Dispose contaminated material as waste according to item 13.
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.

7 Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Take note of emission threshold.
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
Fumes can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.
Keep respiratory protective device available.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurised containers.
- **Information about storage in one common storage facility:**
Do not store together with alkalis (caustic solutions).
Do not store together with oxidising and acidic materials.
- **Further information about storage conditions:**
Store receptacle in a well ventilated area.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 3)

- Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
- Keep container tightly sealed.
- **Storage class:** 2B
- **7.3 Specific end use(s)** See chapter 1.2.

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:**

109-66-0 pentane

WEL | Long-term value: 1800 mg/m³, 600 ppm

106-97-8 butane

WEL | Short-term value: 1810 mg/m³, 750 ppm
Long-term value: 1450 mg/m³, 600 ppm
Carc (if more than 0.1% of buta-1.3-diene)

- **Additional information:** The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

- **Respiratory protection:** Not necessary if room is well-ventilated.

Protection of hands:

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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 gloves made of the following materials are suitable:**

PVC or PE gloves

Recommended thickness of the material: \geq - mm

Value for the permeation: Level \leq 8 h

- **As protection from splashes gloves made of the following materials are suitable:**

Butyl rubber, BR

Recommended thickness of the material: \geq 0.3 mm

Value for the permeation: Level \leq 4-8 h

- **Eye protection:** Safety glasses

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

General Information

Appearance:

Form: Aerosol

Colour: Yellowish

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

Change in condition

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Not applicable, as aerosol.

· **Flash point:** <0 °C

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 4)

· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	235 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.4 Vol %
Upper:	10.9 Vol %
· Vapour pressure at 20 °C:	8,300 hPa
· Density at 20 °C:	0.8 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	81 %
VOC (EC)	73.00 %
· 9.2 Other information	No further relevant information available.

10 Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
- **10.5 Incompatible materials:** Keep away from oxidizing agents, strong alkaline and acidic materials.
- **10.6 Hazardous decomposition products:**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide

11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

109-66-0 pentane

Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4h	>20 mg/m ³ (rat)

106-97-8 butane

Inhalative	LC50/4h	658 mg/m ³ (rat)
------------	---------	-----------------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 5)

- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
16 05 04*	gases in pressure containers (including halons) containing hazardous substances
15 01 04	metallic packaging
HP 3	Flammable
HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 14	Ecotoxic

- **Uncleaned packaging:**
- **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

14 Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1950
- **14.2 UN proper shipping name**
- **ADR** 1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS
- **IMDG** AEROSOLS (PENTANES, hexane (containing < 5 % n-hexane (203-777-6))), MARINE POLLUTANT
- **IATA** AEROSOLS, flammable

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 6)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 2 5F Gases.
 · **Label** 2.1

· **IMDG**



· **Class** 2.1
 · **Label** 2.1

· **IATA**



· **Class** 2.1
 · **Label** 2.1

· **14.4 Packing group**

· **ADR, IMDG, IATA** not regulated

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances:
 pentane

· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Gases.

· **Danger code (Kemler):**

-

· **EMS Number:**

F-D,S-U

· **Stowage Code**

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.

· **14.7 Transport in bulk according to Annex II of
 Marpol 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

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.01.2019

Version number 1.0

Revision: 10.01.2019

(Contd. of page 7)

· **UN "Model Regulation":**

UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
P3a FLAMMABLE AEROSOLS
E2 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57 -**
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.
H224 Extremely flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H331 Toxic if inhaled.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

- **Department issuing SDS:** Product Safety Department

- **Contact:** B. Treiber, b.treiber@c-kreul.de

- **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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Gas 1: Flammable gases – Category 1
Aerosol 1: Aerosols – Category 1
Press. Gas C: Gases under pressure – Compressed gas
Flam. Liq. 1: Flammable liquids – Category 1
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

-GB-