

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

Printing date 30.06.2021

Version number 28

Revision: 30.06.2021

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

1.1 Product identifier

Trade name: Release Agent MK-100 (Spray)

UFI: R660-M0FP-400S-FD60

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 Release Agent

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Muench Chemie International GmbH

Viernheimer Straße 70 - 76

D-69469 Weinheim

GERMANY

Phone: +49 (6201) 99 83 - 0

Fax: +49 (6201) 1 71 95

Mail: msds@muench-chemie.com

Web: www.muench-chemie.com

Further information obtainable from: Laboratory

1.4 Emergency telephone number:

Muench Chemie International GmbH: +49 (6201) 99 83 - 0 (7:30am-4:00pm) or +49 (171) 37 37 502 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Aerosol 1	H222-H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
Skin Irrit. 2	H315	Causes skin irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.
Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.

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 GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:

Naphtha (petroleum), hydrotreated light, < 0,1 % Benzene

Solvent naphtha (petroleum), light arom., < 0,1 % Benzene

Hazard statements

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

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

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.

P273 Avoid release to the environment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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.

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2.3 Other hazards

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: consisting of the following components.

Dangerous components:

CAS: 64742-49-0	Naphtha (petroleum), hydrotreated light, < 0,1 % Benzene	20 - 50%
EINECS: 265-151-9	⚠ Flam. Liq. 2, H225; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411;	
Reg.nr.: 01-2119475133-43-XXXX	⚠ Skin Irrit. 2, H315; STOT SE 3, H336	
CAS: 106-97-8	butane, pure	10 - 25%
EINECS: 203-448-7	⚠ Flam. Gas 1A, H220; ⚠ Acute Tox. 3, H331; Press. Gas (Comp.), H280	
CAS: 74-98-6	propane	10 - 25%
EINECS: 200-827-9	⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	
CAS: 64742-95-6	Solvent naphtha (petroleum), light arom., < 0,1 % Benzene	5 - 10%
EINECS: 265-199-0	⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411;	
Reg.nr.: 01-2119455851-35-XXXX	⚠ Acute Tox. 4, H332; STOT SE 3, H335-H336	

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

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

After skin contact:

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.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

Headache

Dizziness

Dizziness

Nausea

Unconsciousness

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 or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture No further relevant information available.

5.3 Advice for firefighters

Protective equipment: Wear fully protective suit.

Additional information Cool endangered receptacles with water spray.

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

Ensure adequate ventilation

Keep away from ignition sources.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

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: 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**

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Information about fire - and explosion protection:

Do not spray onto a naked flame or any incandescent material.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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:**

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 oxidising agents.**Further information about storage conditions:**

Store in dry conditions.

Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

Keep container tightly sealed.

Do not seal receptacle gas tight.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Storage class: 2 B**7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Additional information about design of technical facilities:** No further data; see item 7.**Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

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8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
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 skin.
Avoid contact with the eyes and skin.

Respiratory protection:

Short term filter device:

Filter AX

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.4 mm

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: Not required.

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Aerosol
Colour: Colourless
Odour: Characteristic
Odour threshold: Not determined.
pH-value: Not determined.

Change in condition

Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: 60 °C

Flash point: 0 °C

Flammability (solid, gas): Not applicable.

Ignition temperature: 365 °C

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Not determined.

Explosion limits:

Lower: 0.8 Vol %

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Upper:	10.9 Vol %
Vapour pressure at 20 °C:	8,300 hPa
Density at 20 °C:	0.73 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not applicable.
Solubility in / Miscibility with water:	Fully miscible.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	98.3 %
VOC (EC)	98.32 %
9.2 Other information	No further relevant information available.

SECTION 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 No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 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:
64742-49-0 Naphtha (petroleum), hydrotreated light, < 0,1 % Benzene

Oral LD50 >2,000 mg/kg (Ratte)

Dermal LD50 >2,000 mg/kg (rbt)

Inhalative LC50/4 h >20 mg/l (Ratte)

106-97-8 butane, pure

Inhalative LC50/4 h 658 mg/l (Ratte)

64742-95-6 Solvent naphtha (petroleum), light arom., < 0,1 % Benzene

Oral LD50 >6,800 mg/kg (Ratte)

Dermal LD50 >3,400 mg/kg (rab)

Inhalative LC50/4 h >10.2 mg/l (Ratte)

Primary irritant effect:
Skin corrosion/irritation

Causes skin irritation.

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.

Additional toxicological information:
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Germ cell mutagenicity Based on available data, the classification criteria are not met.

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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
 May be fatal if swallowed and enters airways.

SECTION 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, even in small quantities.

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.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must be specially treated adhering to official regulations.

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

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA

UN1950

14.2 UN proper shipping name

ADR

1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS

IMDG

AEROSOLS

IATA

AEROSOLS, flammable

14.3 Transport hazard class(es)

ADR



Class

2 5F Gases.

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Label

2.1

IMDG, IATA



Class

2.1

Label

2.1

14.4 Packing group

ADR, IMDG, IATA

Void

14.5 Environmental hazards:

Marine pollutant:

No

Special marking (ADR):

Symbol (fish and tree)

14.6 Special precautions for user

Warning: Gases.

Hazard identification number (Kemler code):

-

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

UN "Model Regulation":

UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

SECTION 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 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

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

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REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

National regulations:

Breakdown regulations:

Class Share in %

NK >50
Waterhazard class: Water hazard class 2 (Self-assessment): 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.
H225 Highly flammable liquid and vapour.
H226 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.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Department issuing SDS: Laboratory

Abbreviations and acronyms:

Flam. Gas 1A: Flammable gases – Category 1A
Aerosol 1: Aerosols – Category 1
Press. Gas (Comp.): Gases under pressure – Compressed gas
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
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

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