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

1.1 Product identifier

Lokreiniger
Article number: 6856

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

1.2.1 Relevant uses

Cleaning agent

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Viessmann Modelltechnik GmbH
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Technical information

info@viessmann-modell.com

Safety Data Sheet

sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body

+49 (0) 6131-19240 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

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

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

Skin Irrit. 2: H315 Causes skin irritation.

STOT SE 3: H336 May cause drowsiness or dizziness.

Eye Irrit. 2: H319 Causes serious eye irritation.

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



2.2 Label elements

Hazard pictograms**Signal word**

DANGER

Contains:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Acetone

Hazard statements

H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H319 Causes serious eye irritation.

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.

P251 Do not pierce or burn, even after use.

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

P271 Use only outdoors or in a well-ventilated area.

P260 Do not breathe vapours / spray.

P280 Wear protective gloves / eye protection / face protection.

P312 Call a POISON CENTER / doctor if you feel unwell.

P273 Avoid release to the environment.

P501 Dispose of contents/container in accordance with local/national regulation.

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

Cleaner, 648/2004/CE, contains:

>=30% aliphatic hydrocarbons

< 5% aromatic hydrocarbons

2.3 Other hazards

Environmental hazards

Does not contain any PBT or vPvB substances.

Other hazards

Further hazards were not determined with the current level of knowledge.

**SECTION 3: Composition / Information on ingredients****Product-type:**

The product is a mixture.

Range [%]	Substance
25 - 50	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics EINECS/ELINCS: 927-510-4, Reg-No.: 01-2119475515-33-XXXX GHS/CLP: Flam. Liq. 2: H225 - Asp. Tox. 1: H304 - Skin Irrit. 2: H315 - STOT SE 3: H336 - Aquatic Chronic 2: H411
25 - 50	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane EINECS/ELINCS: 921-024-6, Reg-No.: 01-2119475514-35-XXXX GHS/CLP: Flam. Liq. 2: H225 - Skin Irrit. 2: H315 - Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411
10 - 20	Acetone CAS: 67-64-1, EINECS/ELINCS: 200-662-2, EU-INDEX: 606-001-00-8, Reg-No.: 01-2119471330-49-XXXX GHS/CLP: Flam. Liq. 2: H225 - Eye Irrit. 2: H319 - STOT SE 3: H336
2,5 - 10	iso-Butane CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119485395-27-XXXX GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
2,5 - 10	Carbon dioxide (EU occupational exposure limit value) CAS: 124-38-9, EINECS/ELINCS: 204-696-9 GHS/CLP: Press. Gas: H280
2,5 - 10	Propane CAS: 74-98-6, EINECS/ELINCS: 200-827-9, EU-INDEX: 601-003-00-5, Reg-No.: 01-2119486944-21-XXXX GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

Take off contaminated clothing and wash before reuse.

Inhalation

Remove person to fresh air and keep comfortable for breathing.
In the event of symptoms seek medical treatment.

Skin contact

When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion

Seek medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

Headache
Drowsiness
Vertigo
Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

Suitable extinguishing media Foam.
Dry powder.
Water spray jet.
Carbon dioxide.

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Bursting aerosols can be forcibly projected from a fire.

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.

Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

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

Keep away from all sources of ignition.
Ensure adequate ventilation.
Use personal protective clothing.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Take up residues with absorbent material (e.g. sand).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

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

Provide suitable vacuuming at the processing area.
Use only in well-ventilated areas.
Avoid spilling or spraying in enclosed areas.
Vapours can form an explosive mixture with air.
Keep away from all sources of ignition - Refrain from smoking.
Do not eat, drink, smoke or take drugs at work.
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.
Use barrier skin cream.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Provide solvent-resistant and impermeable floor.
Prevent penetration into the ground.
Do not store together with oxidizing agents.
Do not store together with food and animal food/diet.
Keep container in a well-ventilated place.
Protect from heat/overheating.



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7.3 Specific end use(s)

See product use, SECTION 1.2

**SECTION 8: Exposure controls / personal protection****8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (GB)**

Substance
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
EINECS/ELINCS: 921-024-6, Reg-No.: 01-2119475514-35-XXXX
Long-term exposure: 1200 mg/m ³
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics
EINECS/ELINCS: 927-510-4, Reg-No.: 01-2119475515-33-XXXX
Long-term exposure: 500 ppm, 2085 mg/m ³ , (Heptane)
Carbon dioxide (EU occupational exposure limit value)
CAS: 124-38-9, EINECS/ELINCS: 204-696-9
Long-term exposure: 5000 ppm, 9150 mg/m ³
Short-term exposure (15-minute): 15000 ppm, 27400 mg/m ³
iso-Butane
CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119485395-27-XXXX
Long-term exposure: 600 ppm, 1450 mg/m ³ , (Butane)
Short-term exposure (15-minute): 750 ppm, 1810 mg/m ³
Acetone
CAS: 67-64-1, EINECS/ELINCS: 200-662-2, EU-INDEX: 606-001-00-8, Reg-No.: 01-2119471330-49-XXXX
Long-term exposure: 500 ppm, 1210 mg/m ³
Short-term exposure (15-minute): 1500 ppm, 3620 mg/m ³

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Carbon dioxide (EU occupational exposure limit value)
CAS: 124-38-9, EINECS/ELINCS: 204-696-9
Eight hours: 5000 ppm, 9000 mg/m ³
Acetone
CAS: 67-64-1, EINECS/ELINCS: 200-662-2, EU-INDEX: 606-001-00-8, Reg-No.: 01-2119471330-49-XXXX
Eight hours: 500 ppm, 1210 mg/m ³

DNEL

Substance
Acetone, CAS: 67-64-1
Industrial, dermal, Long-term - systemic effects: 186 mg/kg bw/d.
Industrial, inhalative, Long-term - local effects: 2420 mg/m ³ .
Industrial, inhalative, Long-term - systemic effects: 1210 mg/m ³ .
general population, inhalative, Long-term - systemic effects: 200 mg/m ³ .
general population, oral, Long-term - systemic effects: 62 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 62 mg/kg bw/d.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics
Industrial, inhalative (vapor), Long-term - systemic effects: 2085 mg/m ³ .
Industrial, dermal, Long-term - systemic effects: 300 mg/kg.
general population, dermal, Long-term - systemic effects: 149 mg/kg bw.
general population, oral, Long-term - systemic effects: 149 mg/kg bw.
general population, inhalative (vapor), Long-term - systemic effects: 447 mg/m ³ .
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane



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Industrial, dermal, Long-term - systemic effects: 773 mg/kg bw/day.

Industrial, inhalative, Long-term - systemic effects: 2035 mg/m³.

general population, oral, Long-term - systemic effects: 699 mg/kg bw/day.

general population, inhalative, Long-term - systemic effects: 608 mg/m³.

general population, dermal, Long-term - systemic effects: 699 mg/kg bw/day.

PNEC

Substance

Acetone, CAS: 67-64-1

sewage treatment plants (STP), 100 mg/L.

soil, 29,5 mg/kg soil dw.

sediment (seaater), 3,04 mg/kg sediment dw.

sediment (freshwater), 30,4 mg/kg sediment dw.

seawater, 1,06 mg/L.

freshwater, 10,6 mg/L.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	0,4mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Protective clothing.
Other	Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Form	aerosol
Color	colourless
Odor	characteristic
Odour threshold	not applicable
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	0,71 (20 °C / 68,0 °F)
Bulk density [kg/m ³]	not applicable
Solubility in water	virtually insoluble
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not applicable
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not applicable

9.2 Other information

none

SECTION 10: Stability and reactivity**10.1 Reactivity**

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Risk of bursting.

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

Reactions with strong oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

Oxidizing agent

10.6 Hazardous decomposition products

Flammable gases/vapours.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product
ATE-mix, inhalation (vapour), > 20 mg/l 4h.
ATE-mix, dermal, > 2000 mg/kg.
ATE-mix, oral, > 2000 mg/kg.
Substance
Acetone, CAS: 67-64-1
LD50, dermal, Rabbit: > 15800 mg/kg bw.
LD50, oral, Rat: 5800 mg/kg bw (OECD 401).
LC50, inhalative, Rat: 76 mg/L (4h).
iso-Butane, CAS: 75-28-5
LC50, inhalative, mouse: 1237 mg/l (2h) (Lit.).
Propane, CAS: 74-98-6
LC50, inhalative, Rat: > 1443 mg/l (15 min) (Lit.).
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics
LD50, dermal, Rabbit: 2800 - 3100 mg/kg.
LD50, oral, Rat: > 5840 mg/kg.
LC50, inhalative, Rat: > 23,3 mg/l/4h.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
LD50, oral, Rat: > 5840 mg/kg.
LD50, dermal, Rat: > 2920 mg/kg.
LC50, inhalative, Rat: > 25,2 mg/l (4 h).

Serious eye damage/irritation	Irritant Based on the available information, the classification criteria are fulfilled. Toxicological data of complete product are not available. Calculation method
Skin corrosion/irritation	Irritant Based on the available information, the classification criteria are fulfilled. Toxicological data of complete product are not available. Calculation method
Respiratory or skin sensitisation	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Specific target organ toxicity — single exposure	Vapours may cause drowsiness and dizziness. Based on the available information, the classification criteria are fulfilled. Toxicological data of complete product are not available. Calculation method
Specific target organ toxicity — repeated exposure	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Mutagenicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Reproduction toxicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Carcinogenicity	Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.
Aspiration hazard	Based on the available information, the classification criteria are fulfilled.
General remarks	



The determination of properties hazardous to health does not take the propellant or carrier material into account.

SECTION 12: Ecological information

12.1 Toxicity

Substance
Acetone, CAS: 67-64-1
LC50, (48h), Daphnia pulex: 8800 mg/l.
LC50, (96h), Oncorhynchus mykiss: 5540 mg/l.
NOEC, (96h), Algae: 430 mg/l.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics
LC50, (96h), Oncorhynchus mykiss: > 13,4 mg/l.
EC50, (24h), Pseudokirchneriella subcapitata: 10 - 30 mg/l.
EC50, (48h), Daphnia magna: 3 mg/l.
NOEC, (21d), Daphnia magna: 0,17 mg/l.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
LC50, (96h), Oncorhynchus mykiss: 11,4 mg/L.
EC50, (48h), Daphnia magna: 3 mg/L.
NOELR, (21d), Daphnia magna: 1 mg/L.
NOELR, (28d), Oncorhynchus mykiss: 2,045 mg/L.

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	not determined

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

For recycling, consult manufacturer.
 Coordinate disposal with the authorities if necessary.
 Dispose of as hazardous waste.

Waste no. (recommended)

160504* gases in pressure containers (including halons) containing dangerous substances

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Waste no. (recommended)

150110*
 150104

SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID 1950

Inland navigation (ADN) 1950

Marine transport in accordance with IMDG 1950

Air transport in accordance with IATA 1950

**14.2 UN proper shipping name**

Transport by land according to ADR/RID Aerosols

- Classification Code 5F

- Label 

- ADR LQ 1 I

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 2 (D)

Inland navigation (ADN) Aerosols

- Classification Code 5F

- Label 

Marine transport in accordance with IMDG Aerosols (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)

- EMS F-D, S-U

- Label  

- IMDG LQ 1 I

Air transport in accordance with IATA Aerosols, flammable

- Label 

14.3 Transport hazard class(es)

Transport by land according to ADR/RID 2

Inland navigation (ADN) 2

Marine transport in accordance with IMDG 2.1

Air transport in accordance with IATA 2.1

14.4 Packing group

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable



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14.5 Environmental hazards

Transport by land according to ADR/RID yes

Inland navigation (ADN) yes

Marine transport in accordance with IMDG MARINE POLLUTANT

Air transport in accordance with IATA yes

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2018).

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011).

- Observe employment restrictions for people Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.

- VOC (2010/75/CE) 100 %

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information**16.1 Hazard statements (SECTION 03)**

H280 Contains gas under pressure; may explode if heated.
 H220 Extremely flammable gas.
 H319 Causes serious eye irritation.
 H411 Toxic to aquatic life with long lasting effects.
 H336 May cause drowsiness or dizziness.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H225 Highly flammable liquid and vapour.



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16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@/TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information**Classification procedure**

Aerosol 1: H222 Extremely flammable aerosol. (Bridging principle "Aerosols") H229
 Pressurised container: May burst if heated. (Bridging principle "Aerosols")
 Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (Bridging principle "Aerosols")
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
 STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)
 Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
 Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)

Modified position

none



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