

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****MD-SIL rot Automatikkartusche**  
**Article number MSI.R.K200****1.2 Relevant identified uses of the substance or mixture and uses advised against****1.2.1 Relevant uses**

Sealing material

**1.2.2 Uses advised against**

None known.

**1.3 Details of the supplier of the safety data sheet**

<b>Company</b>	Marston Domsel GmbH Bergheimer Str. 15 53909 Zülpich / GERMANY Phone 0 22 52 / 94 15 - 0 Fax 0 22 52 / 17 44 Homepage <a href="http://www.marston-domsel.de">www.marston-domsel.de</a> E-mail <a href="mailto:info@marston-domsel.de">info@marston-domsel.de</a>
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**Address enquiries to**

<b>Technical information</b>	<a href="mailto:info@marston-domsel.de">info@marston-domsel.de</a>
<b>Safety Data Sheet</b>	<a href="mailto:sdb@chemiebuero.de">sdb@chemiebuero.de</a>

**1.4 Emergency telephone number**

<b>Advisory body</b>	+49 (0)89-19240 (24h) (english)
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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]**

Aerosol 3: H229 Pressurised container: May burst if heated.

**2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC**

No classification.

**2.2 Label elements**

The product is classified and required to be labelled in accordance with EC-Directives

**Labelling according to Regulation (EC) 1272/2008**

<b>Hazard pictograms</b>	none
<b>Signal word</b>	WARNING
<b>Hazard statements</b>	H229 Pressurised container: May burst if heated.
<b>Precautionary statements</b>	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P251 Do not pierce or burn, even after use. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F. P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use.
<b>Special labelling</b>	EUH210 Safety data sheet available on request.

**2.3 Other hazards**

<b>Other hazards</b>	Further hazards were not determined with the current level of knowledge.
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**SECTION 3: Composition / Information on ingredients****Product-type:**

The product is a mixture.

Range [%]	Substance
1 - <5	Propyltriacetoxysilane CAS: 17865-07-5, EINECS/ELINCS: 241-816-9, ECB-Nr.: 01-2119966899-07-XXXX GHS/CLP: Skin Corr. 1B: H314 EEC: C, R 34
1 - <2,5	1,1,1,2-Tetrafluoro ethane CAS: 811-97-2, EINECS/ELINCS: 212-377-0, ECB-Nr.: 01-2119459374-33-XXXX GHS/CLP: Press. Gas (*): H280
1 - <2,5	Triacetoxymethylsilane CAS: 4253-34-3, EINECS/ELINCS: 224-221-9, ECB-Nr.: 01-2119962266-32-XXXX GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1C: H314 EEC: C, R 22-14-34

**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 and R-phrases: see SECTION 16.**SECTION 4: First aid measures****4.1 Description of first aid measures****General information**

Change soaked clothing.

**Inhalation**Ensure supply of fresh air.  
In the event of symptoms seek for medical treatment.**Skin contact**In case of contact with skin wash off with warm 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**Rinse out mouth and give plenty of water to drink.  
Do not induce vomiting.  
Seek medical advice.**4.2 Most important symptoms and effects, both acute and delayed**

No information available.

**4.3 Indication of any immediate medical attention and special treatment needed**Treat symptomatically.  
Forward this sheet to the doctor.**SECTION 5: Fire-fighting measures****5.1 Extinguishing media****Suitable extinguishing media**Water spray jet.  
Dry powder.  
Foam.**Extinguishing media that must not be used**

Full water jet.

**5.2 Special hazards arising from the substance or mixture**Carbon dioxide (CO<sub>2</sub>)  
Nitrogen oxides (NO<sub>x</sub>).  
Not combusted hydrocarbons.  
Bursting aerosols can be forcibly projected from a fire.

**5.3 Advice for firefighters**

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

Heat causes increase in pressure and risk of bursting - Keep away from the container.

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

Ensure adequate ventilation.

Use personal protective equipment.

**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. acid binder).

Dispose of absorbed material in accordance with the regulations.

**6.4 Reference to other sections**

See SECTION 8+13

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

Use only in well-ventilated areas.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C.

Do not eat, drink or smoke when using this product.

Wash hands before breaks and after work.

Use barrier skin cream.

Contaminated work clothing should not be allowed out of the workplace.

Take off contaminated clothing and wash before reuse.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep only in original container.

Do not store together with oxidizing agents.

Protect from heat/overheating and from sun.

Keep in a cool place, heat causes increase in pressure and risk of bursting.

Keep container in a well-ventilated place.

**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)**

Range [%]	Substance
5 - <10	Diiron trioxide
	CAS: 1309-37-1, EINECS/ELINCS: 215-168-2
	Long-term exposure: 5 mg/m <sup>3</sup> , fume (as Fe)
	Short-term exposure (15-minute): 10 mg/m <sup>3</sup>
1 - <5	Silicon dioxide
	CAS: 112945-52-5, EINECS/ELINCS: 231-545-4, ECB-Nr.: 01-21193379499-16-XXXX Long-term exposure: 6 mg/m <sup>3</sup> , total inhalable dust
1 - <2,5	1,1,1,2-Tetrafluoro ethane
	CAS: 811-97-2, EINECS/ELINCS: 212-377-0, ECB-Nr.: 01-2119459374-33-XXXX
	Long-term exposure: 1000 ppm, 4240 mg/m <sup>3</sup>
	Acetic acid
	CAS: 64-19-7, EINECS/ELINCS: 200-580-7, EU-INDEX: 607-002-00-6, ECB-Nr.: 01-2119475328-30-XXXX
	Long-term exposure: 10 ppm, 25 mg/m <sup>3</sup> Short-term exposure (15-minute): 15 ppm, 37 mg/m <sup>3</sup>

**Ingredients with occupational exposure limits to be monitored (EU)**

Range [%]	Substance / EC LIMIT VALUES
	Acetic acid
	CAS: 64-19-7, EINECS/ELINCS: 200-580-7, EU-INDEX: 607-002-00-6, ECB-Nr.: 01-2119475328-30-XXXX
	Eight hours: 10 ppm, 25 mg/m <sup>3</sup>

**DNEL**

Range [%]	Substance
1 - <2,5	1,1,1,2-Tetrafluoro ethane, CAS: 811-97-2
	Industrial, inhalative, Long-term - systemic effects: 13936 mg/m <sup>3</sup> .
	general population, inhalative, Long-term - systemic effects: 2476 mg/m <sup>3</sup> .
1 - <2,5	Triacetoxymethylsilane, CAS: 4253-34-3
	Industrial, dermal, Acute - systemic effects: 14,5 mg/kg bw/d.
	Industrial, inhalative, Long-term - local effects: 31 mg/m <sup>3</sup> .
	Industrial, inhalative, Acute - local effects: 31 mg/m <sup>3</sup> .
	Industrial, inhalative, Long-term - systemic effects: 25 mg/m <sup>3</sup> .
	Industrial, inhalative, Acute - systemic effects: 25 mg/m <sup>3</sup> .
	Industrial, dermal, Long-term - systemic effects: 14,5 mg/kg bw/d.
	general population, dermal, Long-term - systemic effects: 7,2 mg/kg bw/d.
	general population, dermal, Acute - systemic effects: 7,2 mg/kg bw/d.
	general population, oral, Long-term - systemic effects: 1 mg/kg bw/d.
	general population, inhalative, Long-term - local effects: 5,1 mg/m <sup>3</sup> .
	general population, inhalative, Acute - systemic effects: 6,3 mg/m <sup>3</sup> .
	general population, inhalative, Long-term - systemic effects: 6,3 mg/m <sup>3</sup> .
	general population, oral, Acute - systemic effects: 1 mg/kg bw/d.
general population, inhalative, Acute - local effects: 5,1 mg/m <sup>3</sup> .	
1 - <5	Propyltriacetoxysilane, CAS: 17865-07-5
	Industrial, inhalative, Long-term - systemic effects: 85,39 mg/m <sup>3</sup> .
	Industrial, dermal, Long-term - systemic effects: 12,11 mg/kg bw/d.
	general population, oral, Long-term - systemic effects: 6,05 mg/kg bw/d.
	general population, inhalative, Long-term - systemic effects: 21,06 mg/m <sup>3</sup> .
general population, dermal, Long-term - systemic effects: 6,05 mg/kg bw/d.	

**PNEC**

Range [%]	Substance
1 - <2,5	1,1,1,2-Tetrafluoro ethane, CAS: 811-97-2
	sediment (seaater), 0,75 mg/kg.
	seawater, 0,01 mg/l.
	freshwater, 0,1 mg/l.
1 - <2,5	Triacetoxymethylsilane, CAS: 4253-34-3
	soil, 0,145 mg/l.
	seawater, 0,1 mg/l.
	freshwater, 1,0 mg/l.
	sediment (seaater), 0,34 mg/kg.
	sediment (freshwater), 3,4 mg/kg.
1 - <5	Propyltriacetoxysilane, CAS: 17865-07-5
	soil, 0,00336 mg/l.
	seawater, 0,002441 mg/l.
	freshwater, 0,02441 mg/l.
	sewage treatment plants (STP), 10,55 mg/l.

**8.2 Exposure controls**

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation.
<b>Eye protection</b>	Tightly fitting goggles.
<b>Hand protection</b>	The details concerned are recommendations. Please contact the glove supplier for further information. In full contact: ≥ 0,5mm; Nitrile rubber, >480 min (EN 374).
<b>Skin protection</b>	not applicable
<b>Other</b>	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin.
<b>Respiratory protection</b>	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, filter P2.
<b>Thermal hazards</b>	not applicable
<b>Delimitation and monitoring of the environmental exposition</b>	See SECTION 6+7.

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

<b>Form</b>	pasty Press-Pack
<b>Color</b>	red
<b>Odor</b>	characteristic
<b>Odour threshold</b>	not applicable
<b>pH-value</b>	not applicable
<b>pH-value [1%]</b>	not applicable
<b>Boiling point [°C]</b>	not determined
<b>Flash point [°C]</b>	> 100
<b>Flammability [°C]</b>	not determined
<b>Lower explosion limit</b>	not determined
<b>Upper explosion limit</b>	not determined
<b>Oxidizing properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	not determined
<b>Density [g/ml]</b>	1,08 (20 °C / 68,0 °F)
<b>Bulk density [kg/m³]</b>	not applicable
<b>Solubility in water</b>	insoluble
<b>Partition coefficient [n-octanol/water]</b>	not determined
<b>Viscosity</b>	ca. 70000 mPas (active substance)
<b>Relative vapour density determined in air</b>	not determined
<b>Evaporation speed</b>	not determined
<b>Melting point [°C]</b>	not determined
<b>Autoignition temperature [°C]</b>	not determined
<b>Decomposition temperature [°C]</b>	not applicable

**9.2 Other information**

No information available.

**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**Reactions with strong oxidizing agents.  
Risk of bursting.**10.4 Conditions to avoid**See SECTION 7.2.  
Strong heating.**10.5 Incompatible materials**

No information available.

**10.6 Hazardous decomposition products**

Acetic acid.

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

Range [%]	Substance
1 - <2,5	1,1,1,2-Tetrafluoro ethane, CAS: 811-97-2
	LC50, inhalative, Rat: 2.080.000 mg/m <sup>3</sup> /4h.
	NOAEC, inhalative, Rat: 208.000 mg/m <sup>3</sup> .
1 - <2,5	Triacetoxymethylsilane, CAS: 4253-34-3
	LD50, oral, Rat: 1600 mg/kg.
1 - <5	Propyltriacetoxysilane, CAS: 17865-07-5
	LD50, oral, Human: 1460 mg/kg (Lit.).

<b>Serious eye damage/irritation</b>	Non-irritant (rabbit).
<b>Skin corrosion/irritation</b>	Non-irritant (rabbit).
<b>Respiratory or skin sensitisation</b>	not determined
<b>Specific target organ toxicity — single exposure</b>	not determined
<b>Specific target organ toxicity — repeated exposure</b>	not determined
<b>Mutagenicity</b>	not determined
<b>Reproduction toxicity</b>	not determined
<b>Carcinogenicity</b>	not determined
<b>General remarks</b>	

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.  
The product was classified on the basis of toxicological datas.

**SECTION 12: Ecological information****12.1 Toxicity**

Range [%]	Substance
1 - <2,5	1,1,1,2-Tetrafluoro ethane, CAS: 811-97-2
	LC50, (96h), Salmo gairdneri: 450 mg/l.
	EC50, (72h), Selenastrum capricornutum: > 118 mg/l.
	EC50, (48h), Daphnia magna: 980 mg/l.
1 - <5	Propyltriacetoxysilane, CAS: 17865-07-5
	LC50, (96h), Brachidanio rerio: 251 mg/l (Lit.).
	EC50, (48h), Daphnia magna: 62 mg/l (Lit.).
	IC50, (72h), Scenedesmus subspicatus: 73 mg/l (Lit.).

**12.2 Persistence and degradability**

<b>Behaviour in environment compartments</b>	not determined
<b>Behaviour in sewage plant</b>	not applicable
<b>Biological degradability</b>	not applicable

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

No information available.

**12.6 Other adverse effects**

Ecological data of complete product are not available.

No classification on the basis of the calculation procedure of the preparation directive.

**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**

Coordinate disposal with the disposal contractor/authorities if necessary.

**Waste no. (recommended)**

070217

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

**Contaminated packaging**

Uncontaminated packaging may be taken for recycling.

Packaging that cannot be cleaned should be disposed of as for product.

**Waste no. (recommended)**

150102

150104

**SECTION 14: Transport information****14.1 UN number**

See SECTION 14.2 in accordance with UN shipping name

**14.2 UN proper shipping name**

**Transport by land according to ADR/RID** UN 1950 AEROSOLS 2.2

- Classification Code

5A

- Label



- ADR LQ

1 I

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 3 (E)

**Inland navigation (ADN)**

UN 1950 AEROSOLS 2.2

- Classification Code

5A

- Label



**Marine transport in accordance with IMDG** UN 1950 Aerosols 2.2 -

- EMS

F-D, S-U

- Label



- IMDG LQ

1 I

**Air transport in accordance with IATA** UN 1950 Aerosols, non flammable 2.2

- Label

**14.3 Transport hazard class(es)**

See SECTION 14.2 in accordance with UN shipping name



**14.4 Packing group**

See SECTION 14.2 in accordance with UN shipping name

**14.5 Environmental hazards**

See SECTION 14.2 in accordance with UN shipping name

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

No information available.

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

<b>EEC-REGULATIONS</b>	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
<b>TRANSPORT-REGULATIONS</b>	DOT-Classification, ADR (2013); IMDG-Code (2013, 36. Amdt.); IATA-DGR (2013).
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (1999/13/CE)	0 %

**15.2 Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****16.1 R-phrases (SECTION 3)**R 34: Causes burns.  
R 22: Harmful if swallowed.  
R 14: Reacts violently with water.**16.2 Hazard statements (SECTION 3)**H302 Harmful if swallowed.  
H280 Contains gas under pressure; may explode if heated.  
H314 Causes severe skin burns and eye damage.

**16.3 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  
 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  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 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

**16.4 Other information****Customs Tariff**

not determined

**Classification procedure**

Aerosol 3: H229 Pressurised container: May burst if heated. (Bridging principle "Aerosols")

**Modified position**

SECTION 15 been added: EUH210 Safety data sheet available on request.

SECTION 2 been added: Aerosol 3

SECTION 2 been added: H229 Pressurised container: May burst if heated.

SECTION 2 deleted: R 36/38: Irritating to eyes and skin.

SECTION 2 deleted: Irritant

SECTION 4 been added: If eye irritation persists: Get medical advice/attention.

SECTION 4 been added: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 7 been added: Take off contaminated clothing and wash before reuse.

SECTION 7 been added: Contaminated work clothing should not be allowed out of the workplace.

SECTION 7 been added: Do not eat, drink or smoke when using this product.

SECTION 11 been added: Non-irritant (rabbit).

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