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

1.1 Product identifier

MD-SIL Automatik schwarz, transparent, Automatikkartusche
Article number: MSI.S.NK200; MSI.T.NK200; MSI.A.NK200

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

Company

Marston Domsel GmbH
Bergheimer Str. 15
53909 Zülpich / GERMANY
Phone +49 (0) 22 52 94 15 0
Fax +49 (0) 22 52 17 44
Homepage www.marston-domsel.de
E-mail info@marston-domsel.de

Address enquiries to

Technical information info@marston-domsel.de

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (English)

SECTION 2: Hazards identification

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

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

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms none

Signal word WARNING

Hazard statements H229 Pressurised container: May burst if heated.

Precautionary statements 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 carefully and follow all instructions.

Special labelling EUH210 Safety data sheet available on request.

2.3 Other hazards

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

SECTION 3: Composition / Information on ingredients

3.1 Substances

The product is a mixture.

3.2 Mixtures

Range [%]	Substance
1 - 2,5	trans-1,3,3,3-Tetrafluoroprop-1-ene
	CAS: 29118-24-9, EINECS/ELINCS: 471-480-0, Reg-No.: 01-0000019758-54
	GHS/CLP: Press. Gas (Compressed gas): H280
1 - 2,5	Triacetoxy(methyl)silane
	CAS: 4253-34-3, EINECS/ELINCS: 224-221-9, Reg-No.: 01-2119962266-32-XXXX
	GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1C: H314
1 - 2,5	Propyltriacetoxysilane
	CAS: 17865-07-5, EINECS/ELINCS: 241-816-9, Reg-No.: 01-2119966899-07-XXXX
	GHS/CLP: Skin Corr. 1B: H314

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 Change soaked clothing.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek 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

Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO).
Nitrogen oxides (NOx).
Bursting aerosols can be forcibly projected from a fire.

5.3 Advice for firefighters

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

Fire residues and contaminated firefighting water must be disposed of in accordance within 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.

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 within 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.
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)

Substance
Amorphus Silica
CAS: 112945-52-5, EINECS/ELINCS: 231-545-4, Reg-No.: 01-21193379499-16-XXXX
Long-term exposure: 6 mg/m³, total inhalable dust
Acetic acid
CAS: 64-19-7, EINECS/ELINCS: 200-580-7, EU-INDEX: 607-002-00-6, Reg-No.: 01-2119475328-30-XXXX
Long-term exposure: 10 ppm, 25 mg/m³
Short-term exposure (15-minute): 15 ppm, 37 mg/m³

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Acetic acid
CAS: 64-19-7, EINECS/ELINCS: 200-580-7, EU-INDEX: 607-002-00-6, Reg-No.: 01-2119475328-30-XXXX
Eight hours: 10 ppm, 25 mg/m³
Short-term (15-minute): 20 ppm, 50 mg/m³

DNEL

Substance
Triacetoxy(methyl)silane, CAS: 4253-34-3
Industrial, inhalative, Acute - local effects: 31 mg/m³.
Industrial, inhalative, Long-term - local effects: 31 mg/m³.
general population, inhalative, Long-term - local effects: 5,1 mg/m³.
general population, inhalative, Acute - local effects: 5 mg/m³.
Propyltriacetoxysilane, CAS: 17865-07-5
Industrial, dermal, Long-term - systemic effects: 12,11 mg/kg bw/d.
Industrial, inhalative, Long-term - systemic effects: 85,39 mg/m³.
general population, oral, Long-term - systemic effects: 6,05 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 6,05 mg/kg bw/d.
general population, inhalative, Long-term - systemic effects: 21,06 mg/m³.
trans-1,3,3,3-Tetrafluoroprop-1-ene, CAS: 29118-24-9
Industrial, inhalative (gas), Long-term - systemic effects: 3 902 mg/m³ (AF=3).
general population, inhalative (gas), Long-term - systemic effects: 830 mg/m³ (AF=5).

PNEC

Substance
Triacetoxy(methyl)silane, CAS: 4253-34-3
soil, 0,145 mg/l.
seawater, 0,1 mg/l.
freshwater, 1,0 mg/l.
sediment (seawater), 0,34 mg/kg.
sediment (freshwater), 3,4 mg/kg.
sewage treatment plants (STP), 6.9 mg/L.
Propyltriacetoxysilane, CAS: 17865-07-5
sediment (seawater), 1,457 µg/kg.
sediment (freshwater), 14,57 µg/kg.
sediment (seawater), 1.457 µg/kg.

soil, 0,00336 mg/l.
seawater, 0,002441 mg/l.
freshwater, 0,02441 mg/l.
sewage treatment plants (STP), 10,55 mg/l.
trans-1,3,3,3-Tetrafluoroprop-1-ene, CAS: 29118-24-9
freshwater, 0,1 mg/l (AF=1000).

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
Tightly fitting goggles. (EN 166:2001)

Hand protection
The details concerned are recommendations. Please contact the glove supplier for further information.
In full contact:
≥ 0,5mm; Nitrile rubber, >480 min (EN 374-1/-2/-3).

Skin protection
not applicable

Other
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.
Avoid contact with eyes and skin.

Respiratory protection
Not required under normal conditions.
Respiratory protection mask in the event of high concentrations.
Short term: filter apparatus, filter P2. (DIN EN 143)

Thermal hazards
not applicable

Delimitation and monitoring of the environmental exposition
Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	pasty Press-Pack
Color	various
Odor	characteristic
Odour threshold	not applicable
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	>100
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	1,02 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Partition coefficient [n-octanol/water]	No information available.
Viscosity	No information available.
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Autoignition temperature [°C]	No information available.
Decomposition temperature [°C]	not applicable

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Risk of bursting.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.
Strong heating.
Avoid temperatures above 50°C.

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

Product
ATE-mix, oral, > 2000 mg/kg bw.

Substance
Triacetoxy(methyl)silane, CAS: 4253-34-3
LD50, oral, Rat: 1600 mg/kg.
Propyltriacetoxysilane, CAS: 17865-07-5
LD50, oral, Human: 1460 mg/kg (Lit.).
trans-1,3,3,3-Tetrafluoroprop-1-ene, CAS: 29118-24-9
LC50, inhalativ (gas), Rat: > 20700 ppm/4h.

Serious eye damage/irritation	Non-irritant (rabbit). On basis of test data
Skin corrosion/irritation	Non-irritant (rabbit). On basis of test data
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Specific target organ toxicity — single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity — repeated exposure	Based on available data, the classification criteria are not met.
Mutagenicity	Based on available data, the classification criteria are not met.
Reproduction toxicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
General remarks	
	Toxicological data of complete product are not available. 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.

SECTION 12: Ecological information

12.1 Toxicity

Product
Based on the available information, the classification criteria are not fulfilled.:

Substance
Triacetoxy(methyl)silane, CAS: 4253-34-3
LC50, (96h), fish: > 500 mg/L.
EC50, (72h), Algae: > 500 mg/L.
EC50, (48h), Invertebrates: > 500 mg/L.
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.).
trans-1,3,3,3-Tetrafluoroprop-1-ene, CAS: 29118-24-9
LC50, (96h), fish: > 117 mg/l.

12.2 Persistence and degradability

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

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)	160505 080410

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 150110*

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	5A
- Label	
- ADR LQ	1 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 3 (E)
Inland navigation (ADN)	Aerosols
- Classification Code	5A
- Label	
Marine transport in accordance with IMDG	Aerosols
- EMS	F-D, S-U
- Label	
- IMDG LQ	1 l
Air transport in accordance with IATA	Aerosols, non 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	2.2
Air transport in accordance with IATA	2.2

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

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

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

No information available.

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2020)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	not applicable
- VOC (2010/75/CE)	not determined

15.2 Chemical safety assessment

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

SECTION 16: Other information

16.1 Hazard statements (SECTION 03)

H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

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
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
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
LL50 = Median lethal loading
LQ = Limited Quantities
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

Customs Tariff	not determined
Classification procedure	Aerosol 3: H229 Pressurised container: May burst if heated. (Bridging principle "Aerosols")
Modified position	SECTION 3 been added: trans-1,3,3,3-Tetrafluoroprop-1-ene