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

1.1 Product identifier

MS-3000/40v2

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

1.2.1 Relevant uses

Adhesive

1.2.2 Uses advised against

None known.

B Details of the supplier of the safety data sheet

Company PANTERA Product GmbH

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1.4 Emergency telephone number

Advisory body GIZ-Nord; +49 (0)551 19 240

Company

SECTION 2: Hazards identification

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

Skin Irrit. 2: H315 Causes skin irritation. Eye Dam. 1: H318 Causes serious eye damage.

Repr. 1B: H360FD May damage fertility. May damage the unborn child. Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.



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2.2 Label elements

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

Hazard pictograms

Signal word DANGER

Contains: 3-(TrimethoxysilyI)propylamine

Dibutyltin dilaurate

Hazard statements H315 Causes skin irritation.

H318 Causes serious eye damage.

H360FD May damage fertility. May damage the unborn child.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P201 Obtain special instructions before use.

P273 Avoid release to the environment.

P280 Wear protective gloves / protective clothing / eye protection / face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER / doctor.

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

Special labelling Restricted to professional users.

Product treated with preservatives C(M)IT/MIT (CAS: 55965-84-9).

UFI: -

Special labelling Contains: Dibutyltin dilaurate. EUH208 May produce an allergic reaction.

2.3 Other hazards

Physico-chemical hazards Contact with moisture liberates Methanol.

Human health dangers Frequent persistent contact with the skin can cause skin irritation.

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:

3.2 The product is a mixture.

Range [%]	Substance
3 - <5	3-(TrimethoxysilyI)propylamine
	CAS: 13822-56-5, EINECS/ELINCS: 237-511-5, Reg-No.: 01-2119510159-45-XXXX
	GHS/CLP: Eye Dam. 1: H318 - Skin Irrit. 2: H315
3 - <5	Trimethoxyvinylsilane
	CAS: 2768-02-7, EINECS/ELINCS: 220-449-8, Reg-No.: 01-2119513215-52-XXXX
	GHS/CLP: Flam. Liq. 3: H226 - Acute Tox. 4: H332
1 - <2,5	Aminofunctional oligosiloxane.
	CAS: 749886-39-3, EINECS/ELINCS: Polymer
	GHS/CLP: Skin Corr. 1B: H314
0,25 - <0,5	Dibutyltin dilaurate
	CAS: 77-58-7, EINECS/ELINCS: 201-039-8, EU-INDEX: 050-030-00-3, Reg-No.: 01-2119496068-27-XXXX
	GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1C: H314 - Skin Sens. 1: H317 - Repr. 1B: H360FD - Muta. 2: H341 - STOT SE 1: H370 - STOT RE 1: H372 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410

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.



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SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.

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

Irritant effects
Allergic reactions

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

In the event of fire the following can be released:

Carbon monoxide (CO) Nitrogen oxides (NOx).

5.3 Advice for firefighters

Use self-contained breathing apparatus.

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

the local regulations.

Collect contaminated firefighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions

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

In case the product spills into drains/surface waters/groundwater, immediately inform the

authorities.

6.3 Methods and material for containment and cleaning up

Take up mechanically.

Take up residues with absorbent material (e.g. sand, sawdust, general purpose binder,

diatomaceous earth).

Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13



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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

Wash hands before breaks and after work.

Use barrier skin cream.

Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container. Prevent penetration into the ground.

Do not store together with food and animal food/diet.

Keep container tightly closed.

Keep in a cool place. Store in a dry place.

Protect from heat/overheating.

Protect from atmospheric moisture and water.

7.3 Specific end use(s)

See product use, SECTION 1.2



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SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance

Dibutyltin dilaurate

CAS: 77-58-7, EINECS/ELINCS: 201-039-8, EU-INDEX: 050-030-00-3, Reg-No.: 01-2119496068-27-XXXX

Long-term exposure: 0,1 mg/m³, as Sn, Sk

Short-term exposure (15-minute): 0,2 mg/m³

DNEL

Substance		
3-(Trimethoxysilyl)propylamine, CAS: 13822-56-5		
Industrial, dermal, Long-term - systemic effects: 8,3 mg/kg bw/day.		
Industrial, inhalative, Long-term - systemic effects: 58 mg/m³.		
general population, dermal, Long-term - systemic effects: 5 mg/kg bw/day.		
general population, inhalative, Long-term - systemic effects: 17 mg/m³.		
general population, oral, Long-term - systemic effects: 5 mg/kg bw/day.		
Dibutyltin dilaurate, CAS: 77-58-7		
Industrial, dermal, Acute - systemic effects: 2.08 mg/kg bw/day.		
Industrial, inhalative, Long-term - systemic effects: 20 μg/m³.		
Industrial, dermal, Long-term - systemic effects: 430 μg/kg bw/day.		
general population, dermal, Long-term - systemic effects: 160 μg/kg bw/day.		
general population, inhalative, Long-term - systemic effects: 4.6 μg/m³.		
general population, inhalative, Acute - systemic effects: 40 μg/m³.		
general population, oral, Acute - systemic effects: 20 μg/kg bw/day.		
general population, oral, Long-term - systemic effects: 3.1 μg/kg bw/day.		
general population, dermal, Acute - systemic effects: 500 μg/kg bw/day.		
Trimethoxyvinylsilane, CAS: 2768-02-7		
Industrial, inhalative, Long-term - systemic effects: 27.6 mg/m³.		
Industrial, dermal, Long-term - systemic effects: 3.9 mg/kg bw/day.		
Industrial, inhalative, Acute - systemic effects: 260 mg/m³.		
general population, oral, Long-term - systemic effects: 300 μg/kg bw/day.		
general population, dermal, Long-term - systemic effects: 7.8 mg/kg bw/day.		
general population, inhalative, Long-term - systemic effects: 6.7 mg/m³.		
general population, inhalative, Acute - systemic effects: 50 mg/m³.		

PNEC

3-(Trimethoxysilyl)propylamine, CAS: 13822-56-5	
soil, 45 μg/kg soil dw.	
sediment (seawater), 120 μg/kg sediment dw.	
sediment (freshwater), 1,2 mg/kg sediment dw.	
sewage treatment plants (STP), 13 mg/L.	
seawater, 33 µg/L.	
freshwater, 330 μg/L.	
Dibutyltin dilaurate, CAS: 77-58-7	
sewage treatment plants (STP), 100 mg/L.	
seawater, 46,3 ng/L.	

Substance



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freshwater, 463 ng/L

Trimethoxyvinylsilane, CAS: 2768-02-7

sediment (seawater), 150 µg/kg.

sediment (freshwater), 1.5 mg/kg.

sewage treatment plants (STP), 6.6 mg/L

seawater, 40 µg/L

freshwater, 400 µg/L

8.2 Exposure controls

Additional advice on system design
Ensure adequate ventilation on workstation.

Eye protection Safety glasses. (EN 166:2001)

Hand protection >0,7 mm 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 (EN 340)

Other Avoid contact with eyes and skin.

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 In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear

appropriate respiratory protection.

Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)

Thermal hazards not applicable

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 pasty Color clear

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 determined Lower explosion limit not applicable **Upper explosion limit** not applicable

Oxidising properties no

Vapour pressure/gas pressure [kPa] not determined

Density [g/ml] 1,044 (DIN 52451)

Bulk density [kg/m³] not applicable

Solubility in water virtually insoluble

Partition coefficient [n-octanol/water] not determined

Viscosity not applicable

Relative vapour density determined not determined

in air

Evaporation speed not determined

Melting point [°C] not determined

Autoignition temperature [°C] not applicable

Decomposition temperature [°C] > 100



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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

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

If product is heated above decomposition temperature toxic vapours may be released. Reactions with strong oxidizing agents.

10.4 Conditions to avoid

See SECTION 7

10.5 Incompatible materials

not determined

10.6 Hazardous decomposition products

Contact with moisture liberates Methanol.



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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product

ATE-mix, inhalativ (mist), > 20 mg/l (4 h).

Substance

3-(Trimethoxysilyl)propylamine, CAS: 13822-56-5

LD50, dermal, Rabbit: 11,3 mL/kg bw.

LD50, oral, Rat: 2,97 mL/kg bw.

LC50, inhalative, Rat: 5 - 16 ppm (6h).

Dibutyltin dilaurate, CAS: 77-58-7

LD50, oral, Rat: 2071 mg/kg (OECD 401) Sarasin, G. 1981.

Trimethoxyvinylsilane, CAS: 2768-02-7

LD50, dermal, Rabbit: 3259 mg/kg bw.

LD50, inhalative, Rat: 16,8 mg/l (4 h) (OECD TG 403).

LD50, oral, Rat: 7120 mg/kg (OECD TG 401)

NOAEL, inhalative, Rat: 0,058 mg/l (98 d).

NOAEL, oral, Rat: < 62,5 mg/kg (28 d) (OECD TG 422).

Serious eye damage/irritation Irritant
Skin corrosion/irritation Irritant

Respiratory or skin sensitisation May produce an allergic reaction.

Specific target organ toxicity —

single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity —

repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated

Mutagenicity Based on available data, the classification criteria are not met.

This product contains one or more substances of Muta. 2 (CLP).

(CAS 77-58-7)

Reproduction toxicityThis product contains one or more substances of categorie Repr. 1B (CLP).

(CAS 77-58-7) May damage fertility.

May damage the unborn child.

CarcinogenicityBased on available data, the classification criteria are not met.Aspiration hazardBased 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. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.



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SECTION 12: Ecological information

12.1 Toxicity

Substance		
3-(Trimethoxysilyl)propylamine, CAS: 13822-56-5		
LC50, (96h), fish: 934 mg/L.		
EC50, (72h), Algae: >603 - 1000 mg/L.		
EC50, (48h), Daphnia magna: 331 mg/L.		
Dibutyltin dilaurate, CAS: 77-58-7		
EC50, Scenedesmus subspicatus: 1 mg/l.		
EC50, Daphnia magna: 0,463 mg/l.		
EC50, Brachidanio rerio: 3,1 mg/l.		
Trimethoxyvinylsilane, CAS: 2768-02-7		
LC50, (96h), Oncorhynchus mykiss: 191 mg/l.		
EC50, Pseudokirchneriella subcapitata: 210 mg/l (7 d) (US-EPA).		
EC50, (48h), Daphnia magna: 168,7 mg/l (92/69/EWG C.2).		
EC10, Pseudomonas putida: 1000 mg/l (5 h).		

12.2 Persistence and degradability

Behaviour in environment not determined

compartments

Behaviour in sewage plant not determined Biological degradability not determined

12.3 Bioaccumulative potential

not determined

12.4 Mobility in soil

not determined

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

Ecological data of complete product are not available.

Do not discharge product unmonitored into the environment.



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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material c 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.

Disposal in an incineration plant in accordance with the regulations of the local authorities.

080409* Waste no. (recommended)

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

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

Waste no. (recommended) 150110*

150102

SECTION 14: Transport information

14.1 UN number

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

14.2 UN proper shipping name

Transport by land according to

ADR/RID

NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to

ADR/RID

not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with not applicable

IMDG

Air transport in accordance with IATA not applicable



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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 no

IMDG

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

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 (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)

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

- Observe employment restrictions

for people

Observe employment restrictions for young people.

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

- VOC (2010/75/CE) 0 %

15.2 Chemical safety assessment

not applicable



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SECTION 16: Other information

16.1 Hazard statements (SECTION 03)

H410 Very toxic to aquatic life with long lasting effects.

H400 Very toxic to aquatic life.

H372 Causes damage to organs through prolonged or repeated exposure.

H370 Causes damage to organs.

H341 Suspected of causing genetic defects.

H360FD May damage fertility. May damage the unborn child.

H317 May cause an allergic skin reaction.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H318 Causes serious 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

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

Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)

Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)

Repr. 1B: H360FD May damage fertility. May damage the unborn child. (Calculation method) Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)



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Modified position

SECTION 3 deleted: Organoalkoxysilane

SECTION 2 been added: 3-(TrimethoxysilyI)propylamine SECTION 3 been added: 3-(TrimethoxysilyI)propylamine

SECTION 2 been added: P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 2 been added: P310 Immediately call a POISON CENTER / doctor.

SECTION 2 deleted: P308+P313 IF exposed or concerned: Get medical advice / attention.

SECTION 2 been added: Product treated with preservatives [x]. SECTION 2 been added: H318 Causes serious eye damage.

SECTION 2 deleted: exclamation mark

SECTION 2 deleted: H319 Causes serious eye irritation.

SECTION 2 deleted: Eye Irrit. 2 SECTION 2 been added: Eye Dam. 1 SECTION 2 been added: corrosion

SECTION 2 been added: Contact with moisture liberates Methanol.

SECTION 7 been added: Protect from atmospheric moisture and water.

SECTION 8 been added: 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.

SECTION 8 been added: Protective clothing (EN 340)

SECTION 8 been added: Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)

SECTION 8 been added: In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection.

SECTION 8 deleted: Not required under normal conditions.

SECTION 10 been added: Contact with moisture liberates Methanol.

SECTION 10 deleted: No hazardous decomposition products known.

SECTION 12 deleted: The toxicity data pertaining to the ingredients were supplied by the

manufacturers of raw materials.

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