

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

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

1.1 Product identifier

Trade name: **Rust Dissolver Spray**

Article number: 90205, 90240

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

Penetrating oil

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

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



GHS07

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 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07

Signal word

Danger

Hazard-determining components of labelling:

naphtha (petroleum), hydrodesulphurized heavy
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 1)

· <u>Hazard statements</u>	Kerosine (petroleum), hydrodesulfurized Distillates (petroleum), hydrotreated light naphthenic H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
· <u>Precautionary statements</u>	H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H412 Harmful to aquatic life with long lasting effects. 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. 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. P261 Avoid breathing spray. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves. P302+P352 IF ON SKIN: Wash with plenty of water. P312 Call a POISON CENTER/doctor if you feel unwell. 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.
· <u>Additional information:</u>	Buildup of explosive mixtures possible without sufficient ventilation.
· 2.3 Other hazards	
· <u>Results of PBT and vPvB assessment</u>	
· <u>PBT:</u>	Not applicable.
· <u>vPvB:</u>	Not applicable.

SECTION 3: Composition/information on ingredients**· 3.2 Chemical characterisation: Mixtures**· Description: Mixture of substances listed below with nonhazardous additions.· Dangerous components:

CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0 Reg.nr.: 01-2119485395-27	isobutane ⚠ Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	12.5-25%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane ⚠ Flam. Gas 1, H220 Press. Gas (Comp.), H280	12.5-25%
CAS: 64742-82-1 EC number: 919-164-8 Reg.nr.: 01-2119473977-17	naphtha (petroleum), hydrodesulphurized heavy ⚠ STOT RE 1, H372; Asp. Tox. 1, H304 Aquatic Chronic 3, H412	12.5-25%
EC number: 925-653-7	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) ⚠ Asp. Tox. 1, H304 Aquatic Chronic 3, H412	12.5-25%

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 2)

CAS: 64742-81-0 EINECS: 265-184-9 Index number: 649-423-00-8	Kerosine (petroleum), hydrodesulfurized ⚠ Asp. Tox. 1, H304 ⚠ Aquatic Chronic 2, H411 ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	<12.5%
CAS: 64742-53-6 EINECS: 265-156-6 Index number: 649-466-00-2 Reg.nr.: 01-2119480375-34-xxxx	Distillates (petroleum), hydrotreated light naphthenic ⚠ Asp. Tox. 1, H304	<12.5%
CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane ⚠ Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	1-5%
CAS: 111-76-2 EINECS: 203-905-0 Index number: 603-014-00-0 Reg.nr.: 01-2119475108-36	2-butoxyethanol ⚠ Acute Tox. 3, H311; Acute Tox. 3, H331 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	1-5%

• Regulation (EC) No 648/2004 on detergents / Labelling for contents

aliphatic hydrocarbons	≥30%
aromatic hydrocarbons	≥5 - <15%

• 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: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: Do not induce vomiting; call for medical help immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.

• **4.2 Most important symptoms and effects, both acute and delayed**

Breathing difficulty
Headache
Dizziness
Dizziness
Nausea
Profuse sweating

• Information for doctor:

Symptoms in intoxication with (aromatic) hydrocarbons (dosis letalis about 30 g)
a) In acute intoxication: headache, dizziness, euphoria, gastro-intestinal dysfunction, state of excitement, coma.
b) In chronic intoxication: myelotoxic damage, fatigue, dizziness, emaciation, cardiac palpitation after physical exercise, leucopenia, anemia, leukosis.
Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.

• **4.3 Indication of any immediate medical attention and special treatment needed**

If swallowed, gastric irrigation with added, activated carbon.

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 3)

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.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
 - Can form explosive gas-air mixtures.
 - Formation of toxic gases is possible during heating or in case of fire.
 - In case of fire, the following can be released:
 - Carbon monoxide (CO)
 - Sulphur dioxide (SO₂)
 - Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- Protective equipment:
 - Do not inhale explosion gases or combustion gases.
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- Additional information
 - Cool endangered receptacles with water spray.
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation
 - Keep away from ignition sources.
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
- **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:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Ensure adequate ventilation.
 - Dispose contaminated material as waste according to item 13.
- **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.
 - Keep receptacles tightly sealed.
 - Prevent formation of aerosols.
 - Use only in well ventilated areas.
 - Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- Information about fire - and explosion protection:
 - Fumes can combine with air to form an explosive mixture.
 - Keep ignition sources away - Do not smoke.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 4)

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

· 7.2 Conditions for safe storage, including any incompatibilities**· Storage:****· Requirements to be met by storerooms and receptacles:**

Store in a cool location.
 Store only in the original receptacle.
 Observe official regulations on storing packagings with pressurised containers.

· Information about storage in one common storage facility:

Do not store together with acids.
 Store away from oxidising agents.
 Store away from foodstuffs.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.
 Protect from heat and direct sunlight.
 Keep container tightly sealed.
 Store receptacle in a well ventilated area.
 No further relevant information available.

· 7.3 Specific end use(s)**SECTION 8: Exposure controls/personal protection****· Additional information about design of technical facilities:**

No further data; see item 7.

· 8.1 Control parameters**· Ingredients with limit values that require monitoring at the workplace:****106-97-8 butane**

WEL Short-term value: 1810 mg/m³, 750 ppm
 Long-term value: 1450 mg/m³, 600 ppm
 Carc (if more than 0.1% of buta-1.3-diene)

111-76-2 2-butoxyethanol

WEL Short-term value: 246 mg/m³, 50 ppm
 Long-term value: 123 mg/m³, 25 ppm
 Sk, BMGV

· DNELs**111-76-2 2-butoxyethanol**

Oral	DNEL (Kurzzeit-akut)	13.4 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	3.2 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	89 mg/kg bw/day (ARB)
	DNEL (Langzeit-wiederholt)	44.5 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	75 mg/kg bw/day (ARB)
	DNEL (Langzeit-wiederholt)	38 mg/kg bw/day (BEV)
	DNEL (Kurzzeit-akut)	246-663 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	123-426 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	98 mg/m ³ Air (ARB)
		49 mg/m ³ Air (BEV)

· PNECs**111-76-2 2-butoxyethanol**

PNEC (wässrig) 8.8 mg/l (MW)
 8.8 mg/l (SW)

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 5)

PNEC (fest)	2.8 mg/kg Trockengew (BO) 8.14 mg/kg Trockengew (SWS)
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· Ingredients with biological limit values:

111-76-2 2-butoxyethanol

BMGV	240 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: butoxyacetic acid
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· Additional information:

The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:
· General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Use skin protection cream for skin protection.

Clean skin thoroughly immediately after handling the product.

· Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Short term filter device:

Filter A/P2

· Protection of hands:

After use of gloves apply skin-cleaning agents and skin cosmetics.

Preventive skin protection by use of skin-protecting agents is recommended.

**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

The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).

Skin protection agent recommendation for preventive skin shelter without use of protective gloves:

STOKODERM (<http://www.stoko.com>)

Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:

STOKO EMULSION (<http://www.stoko.com>)

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 6)

Skin protection recommendation for skin cleaning after product handling:

REDURAN SPEZIAL (<http://www.stoko.com>)

Skin protection agent recommendation for skin aftercare:

STOKO VITAN (<http://www.stoko.com>)

• Material of gloves

Fluorocarbon rubber (Viton)

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.

• 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.

Value for the permeation: Level \leq 6, 480 min

• For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)

Vitoject (KCL, Art_No. 890)

• As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR

Camatril (KCL, 730, 731, 732, 733)

• Not suitable are gloves made of the following materials:

Leather gloves

Strong material gloves

• Eye protection:



Tightly sealed goggles

• 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:

Yellowish

• Odour:

Petroleum-like

• pH-value:

Not applicable

• Change in condition

Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range: Not applicable, as aerosol.

• Flash point:

Not applicable, as aerosol.

• Ignition temperature:

460 °C

• Auto-ignition temperature:

Product is not selfigniting.

• Explosive properties:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

• Explosion limits:

Lower:

1.7 Vol %

Upper:

10.9 Vol %

• Vapour pressure at 20 °C:

8,300 hPa

• Density at 20 °C:

0.7 g/cm³

• Solubility in / Miscibility with water:

Partly miscible.

(Contd. on page 8)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 7)

· <u>Viscosity:</u>	
<u>Dynamic:</u>	Not determined.
<u>Kinematic:</u>	Not determined.
· <u>Solvent content:</u>	
<u>Organic solvents:</u>	69.9 %
<u>Solids content:</u>	14.5 %
· 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	
· <u>Thermal decomposition / conditions to be avoided:</u>	No decomposition if used according to specifications. No decomposition if used and stored according to specifications.
· 10.3 Possibility of hazardous reactions	Reacts with strong oxidising agents. Reacts with strong acids.
· 10.4 Conditions to avoid	No further relevant information available.
· 10.5 Incompatible materials:	No further relevant information available.
· 10.6 Hazardous decomposition products:	Aldehyde Carbon monoxide and carbon dioxide Possible in traces.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects	
· <u>Acute toxicity</u>	Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	10,733 mg/kg (rabbit)
Dermal	LD50	30,088 mg/kg (rabbit)
Inhalative	LC50/4 h	>74.4 mg/l (rat)

75-28-5 isobutane

Inhalative	LC50/4 h	>50 mg/l (rat)
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64742-82-1 naphtha (petroleum), hydrodesulphurized heavy

Oral	LD50	>5,000 mg/kg (rat) (OECD-Prüfrichtlinie 401)
Dermal	LD50	>3,400 mg/kg (rabbit) (OECD-Prüfrichtlinie 402)
Inhalative	LC50/4 h	>13.1 mg/l (rat)

64742-81-0 Kerosine (petroleum), hydrodesulfurized

Oral	LD50	>5,000 mg/kg (rat) (OECD 420)
Inhalative	LC50	>5.28 mg/l (rat) (OECD 403)

106-97-8 butane

Inhalative	LC50/4 h	658 mg/l (rat)
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111-76-2 2-butoxyethanol

Oral	LD50	300 mg/kg (rabbit) 1,250-1,490 mg/kg (rat)
Dermal	LD50	841 mg/kg (rabbit)

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 8)

Inhalative LC50/4 h >12 mg/l (rat)

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

64742-82-1 naphtha (petroleum), hydrodesulphurized heavy

EL50/48h	10-22 mg/l (daphnia magna)
EL50/72h	50-100 mg/l (Pseudokirchneriella subcapitata)
LL50/96h	10-100 mg/l (Oncorhynchus mykiss)
NOELR/72h	3 mg/l (Pseudokirchneriella subcapitata)
NOEC/21d	0.097 mg/l (daphnia magna)
NOELR/21d	0.28 mg/l (daphnia magna)
NOELR/28d	0.091 mg/l (Oncorhynchus mykiss)

111-76-2 2-butoxyethanol

EC50/24h	1,815 mg/l (daphnia magna)
LC50	297 mg/l (daphnia magna)
EC50/48h	1,550 mg/l (daphnia magna)
NOEC	286 mg/l (green alge)
NOEC/21d	>100 mg/l (Brachydanio rerio)
	100 mg/l (daphnia magna)
EC50/72h	1,840 mg/l (Desmodesmus subspicatus)
LC50/96h	1,490 mg/l (Iepomis macrochirus)
	1,474 mg/l (Oncorhynchus mykiss)

• 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.

- Additional ecological information:

• General notes:

Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

• 12.5 Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

• 12.6 Other adverse effects

No further relevant information available.

(Contd. on page 10)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 9)

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Recommendation**

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

European waste catalogue

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 05 00	gases in pressure containers and discarded chemicals
16 05 04*	gases in pressure containers (including halons) containing hazardous substances

Uncleaned packaging:**Recommendation:**

Disposal must be made according to official regulations.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Recommended cleansing agents:

Alcohol

SECTION 14: Transport information**14.1 UN-Number****ADR, IMDG, IATA**

UN1950

14.2 UN proper shipping name**ADR**

1950 AEROSOLS

IMDG

AEROSOLS

IATA

AEROSOLS, flammable

14.3 Transport hazard class(es)**ADR****Class**

2 5F Gases.

Label

2.1

IMDG**Class**

2 Gases.

Label

2.1

IATA**Class**

2.1

Label

2.1

14.4 Packing group**ADR, IMDG, IATA**

Void

(Contd. on page 11)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 10)

· 14.5 Environmental hazards:

· Marine pollutant: No

· 14.6 Special precautions for user

· Danger code (Kemler): 23
 · 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**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 P3a FLAMMABLE AEROSOLS
 · 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
 · National regulations:
 · Information about limitation of use: Employment restrictions concerning pregnant and lactating women must be observed.
 Employment restrictions concerning juveniles must be observed.
 · Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

(Contd. on page 12)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.11.2019

Version number 5

Revision: 05.11.2019

Trade name: Rust Dissolver Spray

(Contd. of page 11)

- VOC EU 598.5 g/l
- **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.
 - H224 Extremely flammable liquid and vapour.
 - H280 Contains gas under pressure; may explode if heated.
 - H302 Harmful if swallowed.
 - H304 May be fatal if swallowed and enters airways.
 - H311 Toxic in contact with skin.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H331 Toxic if inhaled.
 - H336 May cause drowsiness or dizziness.
 - H372 Causes damage to organs through prolonged or repeated exposure.
 - H411 Toxic to aquatic life with long lasting effects.
 - H412 Harmful to aquatic life with long lasting effects.
- Recommended restriction of use refer to Technical Data Sheet (TDS)
- Department issuing SDS: Laboratory
- Contact: Elke Hake
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- Abbreviations and acronyms:
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 - ICAO: International Civil Aviation Organisation
 - ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - DNEL: Derived No-Effect Level (REACH)
 - PNEL: Predicted No-Effect Concentration (REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Gas 1: Flammable gases – Category 1
 - Aerosol 1: Aerosols – Category 1
 - Press. Gas (Comp.): Gases under pressure – Compressed gas
 - Flam. Liq. 1: Flammable liquids – Category 1
 - Acute Tox. 4: Acute toxicity – Category 4
 - Acute Tox. 3: Acute toxicity – Category 3
 - Skin Irrit. 2: Skin corrosion/irritation – Category 2
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 - STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
 - Asp. Tox. 1: Aspiration hazard – Category 1
 - Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
 - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
 - REACH directive 1907/2006/EC
- Sources
- * Data compared to the previous version altered.

Adaptation in accordance with REACH directive 1907/2006/EC