



Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)

Printed 27.11.2018
revision 21.11.2018 (GB) Version 2.1

e.s. stainless steel spray -bright grade-

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

1.1. Product identifier

Name of product e.s. stainless steel spray -bright grade-
Code-Nr. 5097043

1.2. Relevant identified uses of the substance or mixture and uses advised against Recommended intended purpose(s)

Technical Aerosols

1.3. Details of the supplier of the safety data sheet

Manufacturer/distributor

engelbert strauss GmbH & Co. KG
Frankfurter Str. 98-108, D-63599 Biebergemünd
Phone +49 (0)6050-9710-12, Fax +49 (0)6050-9710-90
E-Mail : info@engelbert-strauss.de
Internet : www.engelbert-strauss.de

Advice

Abteilung: Verkauf (sales department)
Phone +49 (0)6050-9710-12
Fax +49 (0)6050-9710-90
E-mail (competent person):
info@engelbert-strauss.de

1.4. Emergency telephone number

Emergency advice EMERGENCY CONTACT (24h)
Phone ++44 1865 407333 (English)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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Aerosol 1	H222, H229
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 3	H336

Hazard Statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]



GHS02



GHS07



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Signal word

Danger

Hazard Statements

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary Statements

P102 Keep out of reach of children.
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 dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P501 Dispose of contents/container to hazardous or special waste collection point.

Hazardous ingredients for labeling

acetone, butan-1-ol, ethyl-acetate, n-butyl acetate

Special rules for supplemental label elements for certain mixtures

Contains Nickel . May produce an allergic reaction.

2.3. Other hazards

Product has an anesthetic effect.

Information pertaining to special dangers for human and environment

In extensive use, formation of flammable / explosive vapour-air mixture is possible.

Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/ information on ingredients

3.1. Substances

not applicable

3.2. Mixtures

Description

Mixture of active ingredients with propellant



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Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
67-64-1	200-662-2	acetone	3 < 10	Flam. Liq. 2, H225 / Eye Irrit. 2, H319 / STOT SE 3, H336
71-36-3	200-751-6	butan-1-ol	1 < 3	Flam. Liq. 3, H226 / Acute Tox. 4, H302 / STOT SE 3, H335 / Skin Irrit. 2, H315 / Eye Dam. 1, H318 / STOT SE 3, H336
100-41-4	202-849-4	ethylbenzene	< 10	Flam. Liq. 2, H225 / Acute Tox. 4, H332 / STOT RE 2, H373 (hearing organs) / Asp. Tox. 1, H304
115-10-6	204-065-8	dimethylether	50 - 99	Flam. Gas 1, H220 / Press. Gas
123-86-4	204-658-1	n-butyl acetate	< 10	Flam. Liq. 3, H226 / STOT SE 3, H336
141-78-6	205-500-4	ethyl-acetate	3 < 10	Flam. Liq. 2, H225 / Eye Irrit. 2, H319 / STOT SE 3, H336
7440-02-0	231-111-4	nickel powder [particle diameter < 1 mm]	0,25 < 0,99	Carc. 2, H351 / STOT RE 1, H372 / Skin Sens. 1, H317 / Aquatic Chronic 3, H412
1330-20-7	215-535-7	xylene	1 < 10	Flam. Liq. 3, H226 / STOT RE 2, H373 / Asp. Tox. 1, H304 / Acute Tox. 4, H312, H332 / Skin Irrit. 2, H315 / Eye Irrit. 2, H319 / STOT SE 3, H335

REACH

CAS No	Name	REACH registration number
67-64-1	acetone	01-2119471330-49
71-36-3	butan-1-ol	01-2119484630-38
100-41-4	ethylbenzene	01-2119489370-35
115-10-6	dimethylether	01-2119472128-37
123-86-4	n-butyl acetate	01-2119485493-29
141-78-6	ethyl-acetate	01-2119475103-46
7440-02-0	nickel powder [particle diameter < 1 mm]	01-2119438727-29
1330-20-7	xylene	01-2119488216-32

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.

In the event of symptoms refer for medical treatment.

In case of skin contact

In case of contact with skin wash off immediately with soap and water.

Consult a doctor if skin irritation persists.

In case of eye contact

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

In case of ingestion

Do not induce vomiting.

Medical treatment.

4.2. Most important symptoms and effects, both acute and delayed

Physician's information / possible symptoms

Unconsciousness

Anaesthetic state

Headache

Confusion



Dizziness
skin irritation

4.3. Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam
Dry powder
Carbon dioxide
sand

Unsuitable extinguishing media

water
Full water jet

5.2. Special hazards arising from the substance or mixture

Danger of bursting
In case of fire formation of dangerous gases possible.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus.

Additional information

Vapours are heavier than air and will spread on the ground.
Cool endangered containers with water spray jet.
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

For non-emergency personnel

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

6.2. Environmental precautions

Inform pollution control authorities if product gets into the sewerage systems or open waters.
Do not discharge into the drains or bodies of water..
Do not discharge into the drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material.
After taking up the material dispose according to regulation.

Additional Information

Sort out leaky cans and dispose according to regulations.

6.4. Reference to other sections

Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.

General protective measures

Avoid contact with eyes and skin

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink, smoke or take drugs.

Wash hands before breaks and after work.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking

Protect from heat and sunlight.

Vapours can form an explosive mixture with air.

Take precautionary measures against static discharges.

Avoid effect of heat.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Adhere to administrative regulations relating to storage of compressed gas cylinders / containers.

Further information on storage conditions

Protect from direct solar radiation.

Store container at cool and aired place.

Protect from heat/overheating.

7.3. Specific end use(s)

Recommendation(s) for intended use

See section 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
67-64-1	Acetone	8 hours	1210	500	EH40/2005
		Short-term	3620	1500	
71-36-3	butan-1-ol	8 hours			EH40/2005
		Short-term	154	50	
115-10-6	Dimethyl ether	8 hours	766	400	EH40/2005
		Short-term	958	500	
141-78-6	Ethyl acetate	8 hours		200	EH40/2005
		Short-term		400	
100-41-4	Ethylbenzene	8 hours	441	100	EH40/2005
		Short-term	552	125	
1330-20-7	Xylene, o-, m-, p- or mixed isomers	8 hours	220	50	EH40/2005
		Short-term	441	100	



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Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2006/15/EC or 2009/161/EU)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
100-41-4	ethylbenzene	8 hours	442	100	skin
		Short-term	884	200	
115-10-6	dimethylether	8 hours	1920	1000	
67-64-1	acetone	8 hours	1210	500	

DNEL-/PNEC-values

DNEL worker

CAS No	Substance name	Value	Code	Remark
100-41-4	ethylbenzene	77 mg/m3	DNEL long-term inhalative (systemic)	
115-10-6	dimethylether	1894 mg/m3	DNEL long-term inhalative (systemic)	
123-86-4	n-butyl acetate	11 mg/kg	DNEL long-term dermal (systemic)	
		11 mg/kg	DNEL acute dermal, short-term (systemic)	
		960 mg/m3	DNEL acute inhalative (systemic)	
		300 mg/m3	DNEL long-term inhalative (local)	
		480 mg/m3	DNEL long-term inhalative (systemic)	
		600 mg/m3	DNEL acute inhalative (local)	
		2 mg/kg	DNEL short-term oral (acute)	
1330-20-7	xylene	180 mg/kg	DNEL long-term dermal (systemic)	
		289 mg/m3	DNEL acute inhalative (local)	
		289 mg/m3	DNEL acute inhalative (local)	
		289 mg/m3	DNEL acute inhalative (systemic)	
		77 mg/m3	DNEL long-term inhalative (systemic)	
141-78-6	ethyl-acetate	734 mg/m3	DNEL long-term inhalative (local)	
		1468 mg/m3	DNEL acute inhalative (systemic)	
		1468 mg/m3	DNEL acute inhalative (local)	
		63 mg/kg	DNEL long-term dermal (systemic)	
67-64-1	acetone	2420 mg/m3	DNEL acute inhalative (local)	
		1210 mg/m3	DNEL long-term inhalative (systemic)	
		186 mg/kg	DNEL long-term dermal (systemic)	
71-36-3	butan-1-ol	310 mg/m3	DNEL long-term inhalative (local)	
		55 mg/m3	DNEL long-term inhalative (local)	
		3,125 mg/kg bw/day	DNEL long-term oral (repeated)	
7440-02-0	nickel powder [particle diameter < 1 mm]	0,05 mg/m3	DNEL acute inhalative (local)	
		0,05 mg/m3	DNEL acute inhalative (systemic)	
		0,07 mg/cm2	DNEL acute dermal, short-term (local)	



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PNEC

CAS No	Substance name	Value	Code	Remark
123-86-4	n-butyl acetate	0,981 mg/kg	PNEC sediment, freshwater	
		0,18 mg/l	PNEC aquatic, freshwater	
		0,018 mg/l	PNEC aquatic, marine water	
1330-20-7	xylene	12,46 mg/kg	PNEC sediment, freshwater	
		0,327 mg/l	PNEC aquatic, freshwater	
		12,46 mg/kg	PNEC sediment, marine water	
		2,31 mg/kg	PNEC sediment, freshwater	
		0,327 mg/l	PNEC aquatic, marine water	
141-78-6	ethyl-acetate	0,24 mg/l	PNEC aquatic, freshwater	
		0,34 mg/kg	PNEC sediment, freshwater	
		0,115 mg/kg	PNEC sediment, marine water	
		0,024 mg/l	PNEC aquatic, marine water	
		67-64-1	acetone	10,6 mg/l
		30,4 mg/kg	PNEC sediment, freshwater	
		1,06 mg/l	PNEC aquatic, marine water	
		3,04 mg/kg	PNEC sediment, marine water	
71-36-3	butan-1-ol	0,0082 mg/l	PNEC aquatic, marine water	
		0,178 mg/kg	PNEC sediment, freshwater	
		0,0178 mg/kg	PNEC sediment, marine water	
		0,082 mg/l	PNEC aquatic, freshwater	

Additional advice

The statutory local and national regulations have to be observed.

8.2. Exposure controls

Respiratory protection

If ventilation insufficient, wear respiratory protection.

Short-term: filter apparatus, filter A2/P2, otherwise environment-independent breathing apparatus.

Hand protection

Glove material specification [make/type, thickness, permeation time/life, wetting resistance]: butyl rubber; 0,5 mm; 480min, Strauss Butyl special gloves.

In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

Chemical protective gloves must be chosen carefully in view of their design and depending on the dependence on the concentration and amounts of dangerous goods used in the specific working tasks.

Eye protection

tightly fitting goggles

Other protection measures

protective clothing

Appropriate engineering controls

Sufficient ventilation and exhaustion.

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

aerosol

Colour

silver-coloured

Odour

characteristic

Odour threshold

not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not determined				
boiling point	not applicable				
Melting point / Freezing point	not determined				
Flash point	not applicable				Aerosol
Vapourisation rate	not determined				
Flammable (solid)	not applicable				
Flammability (gas)	not determined				
Ignition temperature	> 200 °C				estimate
Self ignition temperature					The product is not self-igniting.
Lower explosion limit	not determined				
Upper explosion limit	not determined				
Vapour pressure	not determined	20 °C			
Relative density	not determined				
Vapour density	not determined				
Solubility in water	not determined				
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	not determined				
Decomposition temperature	not determined				
Viscosity kinematic					not applicable
Oxidising properties					
No information available.					



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Explosive properties

The product is considered non-explosive ; nevertheless explosive vapour/air mixtures can be generated .

9.2. Other information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

No information available.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Keep away from heat.

Risk of formation of explosive hydrogen/air mixtures when stored in enclosed areas.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

Thermal decomposition

Remark No decomposition if used as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 2000 mg/kg			Calculated out of the components.
LD50 acute dermal	1100 mg/kg		Conversion value	Xylene
LC50 acute inhalation	> 5 mg/l (4 h)			Calculated out of the components.
Skin irritation	irritant			
Eye irritation	irritant - risk of strong eye injuries			
Skin sensitization	sensitizing			
Sensitization respiratory system	sensitizing			

Experiences made from practice

Often and long skin contact may cause degreasing and desiccation of the skin which may caus skin irritation.

Sensitization through inhalation possible.

Sensitization through skin contact possible.

Risk of strong eye injuries.



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Irritates respiratory tract.
Inhalation causes headache/nausea.
Irritates mucous membranes.
Irritates eyes and skin.
Inhalation causes narcotic effect/intoxication.

Additional information

The product is to be handled with the caution usual with chemicals.
Other hazardous properties may not be excluded.

SECTION 12: Ecological information

12.1. Toxicity

No information available.

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

General regulation

Do not allow uncontrolled leakage of product into the environment.
Product is not allowed to be discharged into aquatic environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.

16 05 04*

Name of waste

gases in pressure containers (including halons) containing hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product

Remove in accordance with local official regulations.

Recommendations for packaging

Dispose of according to the local waste regulations.

General information

For proper waste disposal a complete emptying of the tin is necessary.

Assignment to a waste code number / waste identification according to the EWC is to be carried out on a sector or process-specific basis.



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SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	1950	1950	1950
14.2. UN proper shipping name	AEROSOLS	AEROSOLS	Aerosols, flammable
14.3. Transport hazard class(es)	2.1	2.1	2.1
14.4. Packing group	-	-	-
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user

Caution: Gases

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

Land and inland navigation transport ADR/RID

Hazard label(s) 2.1

tunnel restriction code D

Classification code 5F

transport in "limited quantities" according to 3.4 ADR is possible

Marine transport IMDG

Transport as limited quantities according to 3.4 IMDG Code is possible.

! SECTION 15: Regulatory information

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

VOC standard

VOC content 82,3 %

VOC value 611 g/L

15.2. Chemical Safety Assessment

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

SECTION 16: Other information

Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

Each user is responsible for the implementation of the national special regulations.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Please observe the following disclaimer! --- Our safety data sheets have been compiled according to effective EU-directives, WITHOUT taking into account the special national directives concerning the handling of hazardous substances.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 2.0

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.



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H304	May be fatal if swallowed and enters airways.
H312,	-?-
H332	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H373	May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H412	Harmful to aquatic life with long lasting effects.