

**! SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Name of product Anti Friction Spray MoS2
Code-Nr. 115390

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**Distributor**

WEICON GmbH & Co. KG
Königsberger Str. 255, DE-48157 Münster
Phone : +49(0)251 / 9322 - 0, Fax : +49(0)251 / 9322 - 244
E-Mail : msds@weicon.de
Internet : www.weicon.de

Advice

Produktsicherheit / Product-Safety-Department
Phone : +49(0)251 / 9322 - 0
Fax : +49(0)251 / 9322 - 244
E-mail (competent person):
msds@weicon.de

1.4. Emergency telephone number

EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel:
++44 1865 407333 (English)
TRANSPORT EMERGENCY CONTACT - UK, UAE, South
Africa (24h): Tel: ++44 1865 407333 (English)

Manufacturer

WEICON GmbH & Co. KG
Königsberger Str. 255, DE-48157 Münster

1.4. Emergency telephone number

GIFTNOTRUF/TRANSPORTNOTRUF - Deutschland (24h):
Tel: ++49 69 222 25285 (Deutsch, Englisch)

! 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 Dam. 1	H318
Aquatic Chronic 3	H412

Hazard Statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H318	Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

2.2. Label elements

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



GHS02



GHS05

! Signal word

Danger

Hazard Statements

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

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.
P260 Do not breathe vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P403 + P235 Store in a well-ventilated place. Keep cool.
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

n-Butylpolytitanat, Naphtha (petroleum), hydrotreated light

Supplemental Hazard information (EU)

Repeated exposure may cause skin dryness or cracking.

! Special rules for supplemental label elements for certain mixtures

Contains Hydrocarbons-Terpene .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

! Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
75-28-5	200-857-2	isobutane	2,5 - 10	Flam. Gas 1, H220 / Press. Gas
106-97-8	203-448-7	butane	50 - 70	Flam. Gas 1, H220 / Press. Gas
110-54-3	203-777-6	n-hexane	0,25 < 1	Flam. Liq. 2, H225 / Repr. 2, H361f / Asp. Tox. 1, H304 / STOT RE 2, H373 / Skin Irrit. 2, H315 / STOT SE 3, H336 / Aquatic Chronic 2, H411
110-82-7	203-806-2	cyclohexane	0,025 < 0,25	Flam. Liq. 2, H225 / Asp. Tox. 1, H304 / Skin Irrit. 2, H315 / STOT SE 3, H336 / Aquatic Acute 1, H400 / Aquatic Chronic 1, H410
74-98-6	200-827-9	propane	10 - 25	Flam. Gas 1, H220 / Press. Gas, H280
68956-56-9	273-309-3	Hydrocarbons-Terpene	0,25 < 1	Flam. Liq. 3, H226 / Asp. Tox. 1, H304 / Skin Irrit. 2, H315 / Skin Sens. 1, H317 / Aquatic Chronic 2, H411
64742-49-0	921-024-6	Naphtha (petroleum), hydrotreated light	10 < 15	Flam. Liq. 2, H225 / Asp. Tox. 1, H304 / Aquatic Chronic 2, H411 / Skin Irrit. 2, H315 / STOT SE 3, H336
9022-96-2	638-841-6	n-Butylpolytitanat	3 < 10	Eye Dam. 1, H318

REACH

CAS No	Name	REACH registration number
75-28-5	isobutane	01-2119485395-27
106-97-8	butane	01-2119474691-32
110-54-3	n-hexane	01-2119480412-44
110-82-7	cyclohexane	01-2119463273-41
74-98-6	propane	01-2119486944-21
68956-56-9	Hydrocarbons-Terpene	01-2119980606-28
64742-49-0	Naphtha (petroleum), hydrotreated light	01-2119475514-35
9022-96-2	n-Butylpolytitanat	polymer

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 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

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

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry powder
Carbon dioxide
sand

Unsuitable extinguishing media

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

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 (e.g. sand, kieselguhr, acid binder, general-purpose binder, sawdust).
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

! 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 and smoke.

Wash hands before breaks and after work.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking

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

Pressurized container.

Do not pierce or burn even after use.

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**

Keep in closed original container.

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

! Further information on storage conditions

Store only at temperature of 30°C maximum (=86°F).

Protect from heat and direct solar radiation.

Store container at cool and aired place.

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
106-97-8	Butane	8 hours	1450	600	EH40/2005
		Short-term	1810	750	
110-82-7	Cyclohexane	8 hours	350	1050	EH40/2005
		Short-term	1050	300	
110-54-3	n-hexane	8 hours	72	20	EH40/2005
106-97-8	Butan (CH)	MAK, 8 hours	1900	800	ZNS
		Short-term	7600	3200	



Safety Data Sheet according to Regulation (EC)

No. 1907/2006 (REACH)

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Anti Friction Spray MoS2

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
110-54-3	n-hexane	8 hours	72	20	
110-82-7	cyclohexane	8 hours	700	200	

DNEL-/PNEC-values

DNEL worker

CAS No	Substance name	Value	Code	Remark
110-54-3	n-hexane	75 mg/m3	DNEL long-term inhalative (systemic)	
110-82-7	cyclohexane	700 mg/m3	DNEL long-term inhalative (systemic)	
		700 mg/m3	DNEL acute inhalative (systemic)	
64742-49-0	Naphtha (petroleum), hydrotreated light	773 mg/kg	DNEL long-term dermal (systemic)	
		2038 mg/m3	DNEL long-term inhalative (systemic)	

PNEC

CAS No	Substance name	Value	Code	Remark
110-82-7	cyclohexane	3,627 mg/kg dw	PNEC sediment, marine water	
		3,24 mg/l	PNEC sewage treatment plant (STP)	
		0,207 mg/l	PNEC aquatic, intermittent release	

! 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 AX/P2, otherwise environment-independent breathing apparatus.

Hand protection

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

Glove material specification [make/type, thickness, permeation time/life, wetting resistance]: Nitrile rubber; 0,4mm; 480min;60min.

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

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

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

aerosol

Colour

black

Odour

characteristic

Odour threshold

not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not determined				
boiling point	-44 °C				Gas
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	285 °C				
Self ignition temperature					The product is not self-igniting.
Lower explosion limit	0,8 Vol-%				
Upper explosion limit	10,9 Vol-%				
Vapour pressure	3 - 4,5 bar	20 °C			
Relative density	0,625 g/cm3	20 °C			
Vapour density	not determined				
Solubility in water					No or low immiscibility
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	not determined				
Decomposition temperature	not determined				
Viscosity dynamic	not determined				
Viscosity kinematic	not determined				
Solvent content	14 %				

**Oxidising properties**

No information available.

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

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Keep away from heat.

Formation of explosive gas/air mixtures.

Risk of bursting.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

Gases/vapours, flammable

Carbon dioxide (CO₂)

Carbon monoxide

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	rat		CAS: 64742-49-0
LD50 acute dermal	> 2000 mg/kg	rabbit		CAS: 64742-49-0
LC50 acute inhalation	> 20 mg/l (4 h)	rat		Isobutane
Skin irritation	irritant			
Eye irritation	risk of strong eye injuries			
Skin sensitization	non-sensitizing			

**Subacute Toxicity - Carcinogenicity**

Value	Species	Method	Validation
Mutagenicity			No experimental information on genotoxicity in vitro available.
Reproduction-Toxicity			No indications of toxic effects were observed in reproduction studies in animals.
Carcinogenicity			No indications of carcinogenic effects are available from long-term trials.

! Experiences made from practice

May irritate the mucosae.

Risk of strong eye injuries.

Frequent persistent contact with the skin may cause skin irritation.

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****Ecotoxicological effects**

Value	Species	Method	Validation
Fish LC50 < 10 mg/l (96 h)	Fish		CAS: 64742-49-0

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

The product has not been tested. Because of the product's consistency and low solubility in water bioavailability is not likely.

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**

Harmful to aquatic life with long lasting effects.

Even in the event of low quantities penetration into the underground drinking water is contaminated.

Do not allow uncontrolled leakage of product into the environment.

Product is not allowed to be discharged into aquatic environment, drains or sewage treatment plants.

The ecotoxic effect of the product has not been tested. The information on this is given on the basis of details in the literature.



! SECTION 13: Disposal considerations

13.1. Waste treatment methods

! Waste code No.	Name of waste
15 01 04	metallic packaging
16 05 04*	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.
Totally emptied packaging may be taken for recycling.

General information

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

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

Transport/further information

Marine pollutant: NO

! SECTION 15: Regulatory information

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

! VOC standard	
VOC content	90 %
VOC value	ca.615 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.

For industrial use only.

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: 8.8

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility or the unborn child (state specific effect if known) (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).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.