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INFORMATION

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World-Class Manufacturing



We are proud of our industry awards and quality certifications

COMMITMENT TO QUALITY

Our Advanced Product Quality Planning (APQP) system ensures that products will meet all customer requirements, and projects stay on track from development to delivery.



Six Sigma-driven methodology through statistical techniques including rigorous data collection, failure mode and effects and process capability analyses are applied to critical projects in our efforts to reduce the rate of defects to the Six Sigma goal of 3.4 defects per million opportunities.

We are committed to continuous improvement in every area of operation – manufacturing productivity and efficiency, quality and delivery performance, health and safety, and the environment. Shrader was one of the very first chemical packaging facilities in North America to be registered to both the QS-9000 quality and ISO 14001 environmental standards.

"Commit to team decisions by placing team before self"

Industry Awards & Quality Certifications

"Formulated by Professionals for Professionals"



Steinbruchweg 2b
DE-53227 Bonn
Germany

Declaration of Conformity

MANUFACTURER: Monti Werkzeuge GmbH
Steinbruchweg 2b
DE-53227 Bonn
Germany

Hereby declare that the "MBX[®] Bristle Blaster[®] 3500X surface treatment tool" is in compliance with the Essential Health and Safety Requirements applicable to hand tools for use in potentially explosive atmospheres according to the ATEX directive 94/9/EC, including conformity to the relevant demands and requirements of the following European Standards.

EN1127-1: 2007
EN13463-1: 2009
EN13463-5: 2003

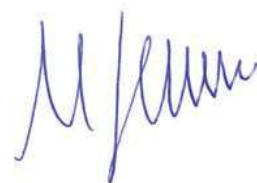
The technical file is stored at TÜV Industrie Service GmbH - TÜV Rheinland Group, Am Grauen Stein, D-51105 Köln, Germany, Notified body no. 0035 under document no. 968/Ex-Ab 1290/09.

The use of the tool and any relevant limitations on its use shall be respected, in order for this declaration to remain valid. Additional safety information: See user instructions.

The marking of the above equipment shall include the following indication:

 II 2G c IIA T4 X

For Monti Werkzeuge GmbH



Name of person responsible
Title/position

Martin Jennes
Managing Director

Date: 31.03.2009

Nutzung in Zone 1 (Kategorie 2 Geräte nach ATEX 94/9/EC)

Der MBX® Bristle Blaster® Pneumatik kann zur Bearbeitung von folgenden Metallen in Zone 1 eingesetzt werden:

Kohlenstoffstahl, Automatenstahl, Manganhartstahl, Nickelstahl, Chromnickelstahl, Molybdänstahl, Chromstahl, Chromvanadiumstahl, Siliziumstahl und Chromnickelaustenitstahl (alle rostend oder nicht rostend, unabhängig vom Grad der Verrostung), Edelstahl, Wolfram, Kupfer und Aluminium. Eine Nutzung des Gerätes in Zone 0 ist nicht gestattet.

Die Bearbeitung von folgenden Metallen in den Zonen 1 oder 2 **ist nicht gestattet**: Magnesium, Zink, Lithium, Bor, Titan, Zirkon, Thorium und Uran.

Die Nutzung von einem und demselben Band auf unterschiedlichen Materialien ist nicht gestattet.

Use in Zone 1 (Category 2 Devices according to ATEX 94/9/EC)

The MBX® Bristle Blaster® pneumatics can be used in zone 1 for processing the following metals: high-carbon steel, machining steel, austenitic manganese steel, nickel steel, chromium nickel steel, molybdenum steel, chromium steel, chrome vanadium steel, silicon steel and austenitic chromium nickel steel (all non-corroding or stainless, regardless of the degree of rusting), stainless steel, tungsten, copper and aluminium.

Use of the device in zone 0 is not allowed.

The processing of the following metals in zones 1 or 2 **is not allowed**: magnesium, zinc, lithium, boron, titanium, zircon, thorium and uranium.

The use of one and the same belt on different materials is not allowed.

Utilisation dans la zone 1 (catégorie 2 Appareils suivants ATEX 94/9/EC)

Le système pneumatique MBX® Bristle Blaster® peut être utilisé pour l'usinage des métaux suivants dans la zone 1 :

acier au carbone, acier de décolletage, acier austénitique au manganèse, acier au nickel, acier au nickel-chrome, acier au molybdène, acier chromé, acier au chrome- vanadium, acier au silicium et acier austénitique au nickel-chrome (tous oxydables ou inoxydables, indépendamment de degré de corrosion), acier inoxydable, tungstène, cuivre et aluminium.

L'appareil ne doit pas être utilisé en zone 0.

L'usinage des métaux ci-dessous **n'est pas autorisé** dans les zones 1 ou 2 : magnésium, zinc, lithium, bore, titane, zircon, thorium et uranium.

L'utilisation d'une seule et même bande sur des matériaux différents n'est pas autorisée.

empleo en la zona 1 (categoría de equipo 2 según ATEX 94/9/CE)

La herramienta neumática MBX® Bristle Blaster® puede ser utilizada para mecanizar los siguientes metales en la zona 1:

acero al carbono, acero para tornos automáticos, acero duro al manganeso, acero al níquel, acero al cromo-níquel, acero al molibdeno, acero al cromo, acero al cromo-vanadio, acero al silicio y acero austenítico al cromo-níquel (todos oxidables o inoxidables, independientemente del grado de oxidación), acero inoxidable, tungsteno, cobre y aluminio.

No está permitido utilizar la herramienta en la zona 0.

No está permitido mecanizar los metales siguientes en las zonas 1 o 2: magnesio, zinc, litio, boro, titanio, circonio, torio y uranio.

No está permitido utilizar una sola cinta para diferentes metales.

MATERIAL SAFETY DATA SHEET

1. Identification of the preparation and of the company

Product type: Stainless Steel **Material-No:** 1.4000 - 1.4999
WERKSTOFF Nr. 4310
Product description: Martensitic, Ferritic, Austenitic and Duplex stainless steels
in massive forms (wire)

Commercially, these products are usually named in accordance with European specifications for stainless steels.

Company: Althoff + Lötters GmbH & Co. KG
Address: Grüner Talstr. 225, 58644 Iserlohn, Germany
Phone: +49 (0)2371 / 958350
Fax: +49 (0)2371 / 958395

2. Composition / Information on ingredients

Chemical characterization:

	Cr	Ni	Mn	Mo
Iron alloy with up to	30 %	38 %	11 %	8 %

Other elements may be present, but they do not present a health hazard, or are below the concentration levels for classification of these metals as hazardous, and are not subject to recognised exposure limit values.

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Details of classified substances contained:

material name	concentration	danger symbol	risc phrases	CAS-No
Nickel	up to 38 %	Xn	R 40 - R 43	7440-02-01

Classification: Carcinogen Category 3
Xn: harmful
R 40: possible risc of irreversible effects
R 43: may cause sensitisation by skin contact

3. Hazards identification

3.1 Description of hazards:

Stainless steels contain nickel as an alloying element. These products have permanent metallic bonds, such that nickel in the alloy has no effect as a possible hazardous substance.

3.2 Description of risces

Dust and fume may be generated during processing e.g in welding, thermal cutting and grinding. If airborne concentrations of dust and fume are excessivce, inhalation over long periods may affect workers health.

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4. First-Aid measures

- 4.1 General:** Measures described in 4.2 and 4.3 are relevant only in the case of dust and/or fume emissions. In the event of physical injury to the skin or eyes seek appropriate medical attention.
- 4.2 Inhalation:** Make sure there is a plentiful supply of fresh air. Seek appropriate medical attention if necessary.
- 4.3 Eye contact:** Rinse eyes with plenty of water. There are no special hazards or precautions associated with the product if in the vicinity of a fire.

5. Fire fighting measures

Not applicable

6. Accidental release measures

Not applicable

7. Handling and storage

Handling: There are no special technical measures involved for handling these materials. Normal precautions should be taken to avoid physical injury from coiled or bundled products possibly with sharp edges.

Storage: Not applicable

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8. Exposure controls / personal protection

8.1 Exposure limits

There are no exposure limits for stainless steel products. Exposure limits apply to some constituent elements (Nickel, Chromium and Manganese) and certain of their compounds. See national regulation for detailed values.

Examples of exposure limit values

Time Weighted Average (T.W.A.) on 8 hours (mg/m ³)	France + ACGIH* (USA)	UK	Germany
Total dust	10	10	6
Nickel insoluble compounds (as Ni)	1.0	0.5	0.5
Chromium metal and Chromium II and Chromium III compounds (as Cr)	0.5	0.5	0.5
Chromium VI compounds (as Cr)	0.05	0.05	0.05
Manganese and compounds (as Mn)	5.0	5.0	5.0
Molybdenum soluble compounds (as Mo)	5.0	5.0	5.0

* ACGIH: American Conference of Governmental Industrial Hygienists

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8.2 Exposure control

Dust and fume may be generated in use, e.g. by cutting, grinding and welding processes, which may contain material subject to exposure limits. To ensure these limits are not exceeded, adequate general or local ventilation or fume extraction should be provided.

8.3 Personal protection

If there is a risk of dust or fume exposure and if ventilation is inadequate, appropriate and suitable respiratory protection facilities should be provided. Suitable hand and eye protection should be worn as for steel in general.

9. Physical and chemical properties

Appearance: Solid; metallic grey, ranging from dull to bright polished.
Occasionally supplied with oxidised, blue/black surfaces.

Odour:	odourless
pH:	not applicable
Boiling point:	not applicable
Melting range:	1400 - 1550° C ³ (due to steel type)
Flash point:	irrelevant
Flammability:	irrelevant
Autoflammability:	irrelevant
Explosive properties:	irrelevant
Oxidizing properties:	irrelevant
Vapour pressure:	irrelevant
Relative density at 20° C:	7,5 - 8,1 g/cm ³ (due to steel type)
Water solubility:	insoluble
Partition coefficient:	irrelevant

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10. Stability and reactivity

Stable and non-reactive under normal ambient atmospheric conditions. May react with strong acid to release gaseous acid decomposition products, e.g. hydrogen, oxides of nitrogen.

11. Toxicological information

11.1 Oral or inhalatory toxicity

Stainless steels may contain Nickel, which has been classified in EU Directive 67/545/EEC as a suspect carcinogenic substance, Category 3. The route of concern is inhalation. However, in their normal, massive supplied forms and in normal industrial uses, stainless steels are not able to be inhaled or ingested, nor will they be in prolonged or repeated skin contact.

11.2 Dermatological toxicity

Nickel is classified as a skin sensitiser through prolonged intimate contact with the skin of some individuals (e.g. wearing of jewellery). Numerous patch tests have established that stainless steels do not cause sensitisation which means there is no risk to develop an allergic skin reaction due to the handling which these steels.

11.3 Reportable observations

No carcinogenic effects resulting from exposure to stainless steels have been reported, either in epidemiological studies or in test with animals.

11.4 Other observations:

Long term experience of stainless steels in the most varied applications has demonstrated that these very resistant materials are eminently suitable where hygiene is of paramount importance.

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12. Ecological information

Not soluble in water - No known harmful effects - No precautions are required

13. Disposal considerations

Surplus and waste stainless steel is a valuable commodity, readily disposed of recycling to produce prime new stainless products.

14. Transport information

No special precautions

15. Regulatory information

15.1 Labelling

Products with specified nickel content less than 1% are not classified as hazardous under EU Directive 67/548/EEC. Products with nickel content equal to or more than 1% are classified (hazard symbol: Xn and R phrases: R 40 – R 43), but not required to be labelled by Virtue of their massive non hazardous form – preventing inhalation, ingestion and prolonged, continuous contact.

15.2 Exposure limits

There are no exposure limits for stainless steels. Limits are applicable for some constituent elements and their compounds: These elements may be contained in dust and fume during processing stainless steel products (see relevant national regulation, if any).

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16. Other information

Sources of key data:

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Mortality patterns among stainless steel workers. In: Nickel in the human environment, LYON: International Agency for Research on Cancer, 1984, 87-93 (IARC scientific publication No 53).
2. **DOLL R et al.**
Report of the international Committee on nickel carcinogenesis in man : Scand. J. of Work Environment & Health, 1990; 16, 1.82.
3. **MAXIMILIEN R.**
Critical review of animal carcinogenesis by nickel and its inorganic compounds.
Part 1: Analytical review & conclusions
Part 2: Appendices, Report EUR 42456 EN/1, 1989.
4. **MOULIN J.J. et al.**
Mortality form study among workers producing ferro alloys and stainless steel in France : British Journal of Industrial Medicine, 1990; 47, 537-543
5. **SIMONATO L. et al.**
A historical prospective study of European stainless steel, mild steel and shipyard welders: British Journal of work Environment & Health; 1990; 48, 145-154
6. **HAUDRECHY P. et al.**
Nickel release from nickel plated metals and stainless steels : Contact dermatitis ; 1994, 31, 249-255

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MATERIAL SAFETY DATA SHEET

Declaration

The information given in this Safety Data Sheet is based on the present level of our knowledge and experience. The Safety Data Sheet describes the products with respect to safety requirements.

The data given is not intended as a confirmation of product properties and does not constitute a legal contractual relationship, nor should it be used as the basis for ordering the products.

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manual</td> <td>Manual</td> <td>1</td> <td>4</td> <td>2</td> <td>8</td> <td>75,00</td> </tr> <tr> <td>19</td> <td>- Misuse of machine</td> <td>Unintended use</td> <td>Destruction of brush</td> <td>Misuse</td> <td>%</td> <td>5</td> <td>5</td> <td>6</td> <td></td> <td>Limitation of area of application</td> <td>Manual</td> <td>2</td> <td>5</td> <td>3</td> <td>30</td> <td>80,00</td> </tr> <tr> <td>20</td> <td>- Excessive speed</td> <td>Excess pressure</td> <td>Destruction of brush</td> <td>Compressed air controller missing</td> <td>%</td> <td>5</td> <td>6</td> <td>6</td> <td></td> <td>Note on max. work pressure</td> <td>Manual</td> <td>1</td> <td>6</td> <td>4</td> <td>24</td> <td>86,67</td> </tr> <tr> <td>21</td> <td>- Wrong flange</td> <td>Destruction of brush</td> <td>Vibration</td> <td>Assembly error</td> <td>%</td> <td>3</td> <td>5</td> <td>4</td> <td></td> <td>Note in manual</td> <td>Manual</td> <td>2</td> <td>5</td> <td>2</td> <td>20</td> <td>66,6666667</td> </tr> <tr> <td>22</td> <td>- Wrong abrasive wheel</td> <td>Unsafe work</td> <td>Operator injury</td> <td>Wrong abrasive wheel</td> <td>%</td> <td>5</td> <td>6</td> <td>5</td> <td></td> <td>Note in manual</td> <td>Manual</td> <td>2</td> <td>6</td> <td>2</td> <td>24</td> <td>84,00</td> </tr> </tbody> </table>																Systems/Features	Risks				Current status				Rectification undertaken				Improved status				Type	Consequence	Cause	Existing preventive measures	Occurrence	Meaning	Detection	RPN	Recommended rectification including person responsible and date	Rectification	Occurrence	Meaning	Detection	RPN	% improvement	9																	10	Mechanical hazards																11	- Cutting	Risk arising from brush	Operator injury	Brush movement	Brush guard	8	5	4		Note in manual	Manual	4	5	4	80	50	12	- Pulling in or trapping	Brush	Operator injury	Brush movement	Brush guard	8	4	4		Note in manual on protective clothing	Manual	4	4	4	64	50,00	13	- Friction and wear	Brush	Breathing in dust	Abrasion	%	8	4	6		Note about 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10	Mechanical hazards																																																																																																																																																																																																																																																																																													
11	- Cutting	Risk arising from brush	Operator injury	Brush movement	Brush guard	8	5	4		Note in manual	Manual	4	5	4	80	50																																																																																																																																																																																																																																																																														
12	- Pulling in or trapping	Brush	Operator injury	Brush movement	Brush guard	8	4	4		Note in manual on protective clothing	Manual	4	4	4	64	50,00																																																																																																																																																																																																																																																																														
13	- Friction and wear	Brush	Breathing in dust	Abrasion	%	8	4	6		Note about breathing mask	Manual	2	4	6	48	75																																																																																																																																																																																																																																																																														
14	- Loss of stability	Brush	Crack in brushes	Wear	%	8	5	2		Note in manual and on brush packaging	Manual	8	5	1	40	50																																																																																																																																																																																																																																																																														
15	- Compressed air escaping	Leak	Injury to operator	Compressed air controller missing	Compressed air controller	2	2	2		Note in manual	Manual	1	2	1	2	75,00																																																																																																																																																																																																																																																																														
16	Propulsion of parts due to:																																																																																																																																																																																																																																																																																													
17	- Crack in abrasive wheel	Brush	Operator injury	Improper use	%	3	6	3		Note in manual	Manual	1	6	2	12	77,78																																																																																																																																																																																																																																																																														
18	- Incorrect clamping	Brush	Vibration	Incorrect assembly	%	4	4	2		Note in manual	Manual	1	4	2	8	75,00																																																																																																																																																																																																																																																																														
19	- Misuse of machine	Unintended use	Destruction of brush	Misuse	%	5	5	6		Limitation of area of application	Manual	2	5	3	30	80,00																																																																																																																																																																																																																																																																														
20	- Excessive speed	Excess pressure	Destruction of brush	Compressed air controller missing	%	5	6	6		Note on max. work pressure	Manual	1	6	4	24	86,67																																																																																																																																																																																																																																																																														
21	- Wrong flange	Destruction of brush	Vibration	Assembly error	%	3	5	4		Note in manual	Manual	2	5	2	20	66,6666667																																																																																																																																																																																																																																																																														
22	- Wrong abrasive wheel	Unsafe work	Operator injury	Wrong abrasive wheel	%	5	6	5		Note in manual	Manual	2	6	2	24	84,00																																																																																																																																																																																																																																																																														

Hazard analysis

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
1	Hazard analysis																	
2																		
3	Dept./Section:		Design	☒	Process	☐	No.: 02				Part name:		Part number:					
4											Brushing machine		MBX 3500					
5											Prepared by		Date					
6											Name/Dept.		Prepared on:					
7											J. Wagner		Revised: 06.07.2007					
8	Systems/Features		Risks				Current status				Improved status							
9																		
38																		
39																		
40																		
41																		
42																		
43																		
44																		

EC Safety Data Sheet

in accordance with 91/155/EEC

Product name MBX Stainless steel brushes

Date: 7.2.07

Revised on: 09.02.07

Page: 01/03

1. Identification of the substance/preparation and of the company/undertaking

Product details: For use with the MBX device for the removal of dirt, rust and lacquer on iron

Manufacturer/supplier details

Monti Werkzeuge GmbH
Steinbruchweg 2b
53227 Bonn

Phone: +49 (0) 228 475061
Fax: +49 (0) 228 476099

2. Composition/information on ingredients

Hazardous substances:

CAS No.	Name	Content %	Symbol	EC number:	Annex 1 No.
	Nitrite rubber	5%			
	Polyamide	5%			
	Stainless steel	90%			

For full version of R-phrases see section 15)

3. Hazards identification:

Hazards identification: Not classified as a health hazard under EU directives

4. First aid measures

- General information: none.
- After inhalation: If symptoms persist, consult doctor.
- After skin contact: Cleanse skin thoroughly with warm water and soap.
- After eye contact: Seek medical advice if eye irritation persists.
- After swallowing: Keep patient calm. Do not attempt to induce vomiting.

5. Firefighting measures

- Suitable extinguishing agents:
Water, carbonic acid, extinguishing powder, foam, sand.
- Unsuitable extinguishing agents for safety reasons: none
- Special hazards arising from product itself: none
- Additional information/special protection equipment: Wear goggles while working

6. Accidental release measures

- Personal precautionary measures: Ensure sufficient ventilation. Wear safety gear.
- Environment protection measures: Dispose of used brushes properly.
- Cleaning/absorption procedure: Dispose of in appropriate containers in compliance with local regulations.

7. Handling and storage**Handling**

-Notes regarding safe handling: Store in packaging in a dry place.

-Fire and explosion protection instructions: none

Storage

-Store room and container requirements: Keep dry

-Incompatible materials information: none

-Further storage notes: none

8. Exposure controls, personal protection equipment

-Technical protection measures:

Substances with workplace-related limits requiring monitoring:
none

Additional notes:

The values given are taken from the currently valid lists.

Personal protection equipment

-Breathing protection: Wear breathing mask

-Hand protection: Gloves

-Eye protection: Goggles

-Body protection: Protective clothing

-Protection and hygiene measures: Wash the skin thoroughly after use.

9. Physical and chemical properties

Form: solid

Colour: Metallic grey

Odour: No odour

-Flash point:

- Value

Unit

Method

Not applicable

°C

-Ignition temperature

Not applicable

°C

-Lower expl. limit

Not applicable

g/m³

-Upper expl. limit

Not applicable

g/m³

-Water-vapour pressure:

not relevant

-Density: at 20° C

9

g/cm³

-Solubility in water

not miscible

-pH value

not relevant

-Viscosity

not relevant

-Boiling point

not relevant

-Solid weight

2 Kg/m³

10. Stability and reactivity

-Conditions to be avoided: Stable if recommended storage and handling requirements are observed (see section 7).

-Substances to be avoided: Oxidants, acid and alkaline substances

-Hazardous degradation products: none

11. Toxicological information

-General comments/experience from practical use: no toxic effect.

-Other observations: none

12. Ecological information

- Water hazard class: none

Product name **MBX Stainless steel brushes**

Date: 07.02.07

Revised on: 09:02:07

Page 03/03

13. Disposal considerations

Product

- Recommendation: Dispose of according to regulations

Recycle empty packaging.

14. Transport information

Land transport

- ADR/RID class: none

Labelling of goods: not relevant

Contains: Vinyl

Transport as "restricted quantity" not relevant

Composite packaging: subject to ADR regulations.

Packaging group: none

Material no.: none

Marine transport

IMDG/GGV sea class: none

UN no: not relevant

- EmS no: not relevant

Marine pollutant: No

Storage category: not relevant

Correct technical name:

Contains: not relevant

Packing Group: none

Transportation as "restricted quantity": not relevant

Air transport

IATA class: none

UN no: none

Correct technical name:

Contains: Isoparaffin hydrocarbon mixture

Packaging group: none

Packaging regulations:

Packaging regulations/Packaging group/Contents

Passenger aircraft:

Restricted quantities:

not relevant

> restricted quantities:

not relevant

Freight aircraft:

not relevant

15. Regulatory information

Labelling according to EC Hazardous Substance Directive

-Symbol and EC hazard labelling of product:

- Hazard determining component(s) for labelling: not relevant

- R-phrases

- S-phrases

- Special labelling:

Information stipulated by water resources law: Water hazard class: none

Immission protection information: Air Quality Control: Class I:

Class II:

Class III:

Inflammable Liquid Ordinance classification:

16. Other information

The information contained herein is based on the present state of our knowledge and complies with current legislation.

However, we are neither aware of users' working conditions, nor can we monitor them. The product may not be used for any other purpose than that specified in Section 1 without written authorisation. The user is responsible for observing all relevant legal requirements. The information in this safety specification sheet describes the safety requirements of our product and does not guarantee certain product characteristics.

EC Safety Data Sheet

in accordance with 91/155/EEC

Product name MBX Spring steel brushes

Date: 7.2.07

Revised on: 09.02.07

Page: 01/03

1. Identification of the substance/preparation and of the company/undertaking

Product details: For use with the MBX device for the removal of dirt, rust and lacquer on iron

Manufacturer/supplier details

Monti Werkzeuge GmbH
Steinbruchweg 2b
53227 Bonn

Phone: +49 (0) 228 475061
Fax: +49 (0) 228 476099

2. Composition/information on ingredients

Hazardous substances:

CAS No.	Name	Content %	Symbol	EC number:	Annex 1 No.
	Nitrite rubber	5%			
	Polyamide	5%			
	Spring steel	90%			

For full version of R-phrases see section 15)

3. Hazards identification:

Hazards identification: Not classified as a health hazard under EU directives

4. First aid measures

- General information: none.
- After inhalation: If symptoms persist, consult doctor.
- After skin contact: Cleanse skin thoroughly with warm water and soap.
- After eye contact: Seek medical advice if eye irritation persists.
- After swallowing: Keep patient calm. Do not attempt to induce vomiting.

5. Firefighting measures

- Suitable extinguishing agents:
Water, carbonic acid, extinguishing powder, foam, sand.
- Unsuitable extinguishing agents for safety reasons: none
- Special hazards arising from product itself: none
- Additional information/special protection equipment: Wear goggles while working

6. Accidental release measures

- Personal precautionary measures: Ensure sufficient ventilation. Wear safety gear.
- Environment protection measures: Dispose of used brushes properly.
- Cleaning/absorption procedure: Dispose of in appropriate containers in compliance with local regulations.

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7. Handling and storage**Handling**

-Notes regarding safe handling: Store in packaging in a dry place.

-Fire and explosion protection instructions: none

Storage

-Store room and container requirements: Keep dry

-Incompatible materials information: none

-Further storage notes: none

8. Exposure controls, personal protection equipment

-Technical protection measures:

Substances with workplace-related limits requiring monitoring:

none

Additional notes:

The values given are taken from the currently valid lists.

Personal protection equipment

-Breathing protection: Wear breathing mask

-Hand protection: Gloves

-Eye protection: Goggles

-Body protection: Protective clothing

-Protection and hygiene measures: Wash the skin thoroughly after use.

9. Physical and chemical properties

Form: solid

Colour: Metallic grey

Odour: No odour

-Flash point:

-Ignition temperature

-Lower expl. limit

-Upper expl. limit

-Water-vapour pressure:

-Density: at 20° C

-Solubility in water

-pH value

-Viscosity

-Boiling point

-Solid weight

- Value Unit

Not applicable °C

Not applicable °C

Not applicable g/m³

Not applicable g/m³

not relevant

9 g/cm³

not miscible

not relevant

not relevant

not relevant

2 Kg/m³

Method

10. Stability and reactivity

-Conditions to be avoided: Stable if recommended storage and handling requirements are observed (see section 7).

-Substances to be avoided: Oxidants, acid and alkaline substances

-Hazardous degradation products: none

11. Toxicological information

-General comments/experience from practical use: no toxic effect.

-Other observations: none

12. Ecological information

- Water hazard class: none

13. Disposal considerations**Product**

- Recommendation: Dispose of according to regulations

Recycle empty packaging.

14. Transport information**Land transport**

- ADR/RID class: none

Labelling of goods: not relevant

Contains: Vinyl

Transport as "restricted quantity" not relevant

Composite packaging: subject to ADR regulations.

Packaging group: none

Material no.: none

Marine transport

IMDG/GGV sea class: none

UN no: not relevant

- EmS no: not relevant

Marine pollutant: No

Storage category: not relevant

Correct technical name:

Contains: not relevant

Packing Group: none

Transportation as "restricted quantity": not relevant

Air transport

IATA class: none

UN no: none

Correct technical name:

Contains: Isoparaffin hydrocarbon mixture

Packaging group: none

Packaging regulations:

Packaging regulations/Packaging group/Contents

Passenger aircraft:

Restricted quantities:

not relevant

> than restricted quantities:

not relevant

Freight aircraft':

not relevant

15. Regulatory information

Labelling according to EC Hazardous Substance Directive

-Symbol and EC hazard labelling of product:

- Hazard determining component(s) for labelling: not relevant

- R-phrases

- S-phrases

- Special labelling:

Information stipulated by water resources law: Water hazard class: none

Immission protection information: Air Quality Control: Class I:

Class II:

Class III:

Inflammable Liquid Ordinance classification:

16. Other information

The information contained herein is based on the present state of our knowledge and complies with current legislation.

However, we are neither aware of users' working conditions, nor can we monitor them. The product may not be used for any other purpose than that specified in Section 1 without written authorisation. The user is responsible for observing all relevant legal requirements. The information in this safety specification sheet describes the safety requirements of our product and does not guarantee certain product characteristics.

Hose Clamp Conversion Chart

Wolfchester	Wurth	Tridon	Utilux
HCWD 2 9 8-16	0539 18 16	SMH004 / MP000	HC 12/10
HCWD 2 9 12-20	0539 112 22	SHS008 / MP00	HC20/10
HCWD 2 9 16-25	0539 116 27	SHS010,012 / MPOA	HC25/10
HCWD 2 9 20-32	0539 120 32	SHS016,020 / MP1A	HC32/10
HCWD 2 9 25-40	0539 125 40	SHS020 / MP1	HC40/10
HCWD 2 9 30-45	0539 130 45	SHS028 / MP1X	
HCWD 2 9 32-50	0539 132 50	SHS024 / MP2A	HC50/10
HCWD 2 9 40-60	0539 140 60	SHS032 / MP2X	HC60/10
HCWD 2 9 50-70	0539 150 70	SHS036,040 / MP3	HC60/10
HCWD 2 9 60-80	0539 160 80	SHS044 / MP4	
HCWD 2 9 70-90	0539 170 90		

Wolfchester	Wurth (W2 grade)	Tridon	Utilux
HCWD 3 12 16-27	0549 216 25		
HCWD 3 12 20-32	0549 220 32		
HCWD 3 12 25-40	0549 225 40		
HCWD 3 12 30-45			
HCWD 3 12 35-50	0549 232 50		
HCWD 3 12 40-60	0549 240 60		
HCWD 3 12 50-70	0549 250 70		
HCWD 3 12 60-80	0549 260 80 10		
HCWD 3 12 70-90	0549 270 90		
HCWD 3 12 80-100	0549 280 100		
HCWD 3 12 90-110	0549 290 110		
HCWD 3 12 100-120	0549 200 120		
HCWD 3 12 110-130	0549 210 130		
HCWD 3 12 120-140			
HCWD 3 12 130-150	0549 230 150		
HCWD 3 12 140-160	0549 240 160		
HCWD 3 12 150-170			
HCWD 3 12 160-180			
HCWD 3 12 180-200			
HCWD 3 12 210-230			
HCWD 3 12 230-250			
HCWD 3 12 260-280			
HCWD 3 12 280-300			

Hose Clamp Conversion Chart Cont.

Wolfchester	Wurth	Tridon	Utilux
HCWD 4 9 8-16		SMP000/SMPM00	H4037/10
HCWD 4 9 12-20		SMP00	H4039/10
HCWD 4 9 12-22		SMP00	H4039/10
HCWD 4 12 16-27		SMP0	H4040/10,4040A/10
HCWD 4 12 20-32		SMP1A	H4051/10
HCWD 4 12 25-40		SMP1	H4041/10
HCWD 4 12 30-45		SMP1X	H4049/10
HCWD 4 12 35-50		SMP2	H4042A/10
HCWD 4 12 40-60		SMP2X	H4042/10
HCWD 4 12 50-70		SMP3	H4042X/10
HCWD 4 12 60-80		SMP4	H4043X/10
HCWD 4 12 70-90		SMP4	H4044/10
HCWD 4 12 80-100		SMP5	H4045/10
HCWD 4 12 90-110		SMP5	
HCWD 4 12 100-120		SMP6	H4046/10
HCWD 4 12 110-130			
HCWD 4 12 120-140			
HCWD 4 12 130-150		SMP7	H4047/10
HCWD 4 12 140-160			
HCWD 4 12 150-170		SMP8	H4048/10
HCWD 4 12 160-180			
HCWD 4 12 170-190			H4052/10
HCWD 4 12 180-200		SMP9	
HCWD 4 12 190-210		SMP10	H4053/10
HCWD 4 12 230-250		SMP11	
HCWD 4 12 280-300		SMP13	

Wolfchester	Wurth	Tridon	Utilux
HCWD 5 9 8-16	0538 008 16		
HCWD 5 9 12-20	0538 012 20		
HCWD 5 9 16-25	0538 16 25		
HCWD 5 12 20-32	0538 20 32		
HCWD 5 12 25-40	0538 25 40		
HCWD 5 12 35-50	0538 32 50		
HCWD 5 12 40-60	0538 40 60		
HCWD 5 12 50-70	0538 50 70		
HCWD 5 12 60-80	0538 60 80		
HCWD 5 12 70-90	0538 70 90		
HCWD 5 12 80-100	0538 80 100		
HCWD 5 12 90-110	0538 90 110		
HCWD 5 12 100-120	0538 100 120		
HCWD 5 12 130-150	0538 130 150		

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