SAFETY DATA SHEETS

This SDS packet was issued with item: 077111040

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

071107465 077093826 077093891 077093909 077093917 077093958 077093966 077093974 077111248

10-25% 10-25%

\$ 2.5%

Printing date 03/25/2010

Reviewed on 03/25/2010

1 Identification of substance

Product details

Trade name: Bifix QM base

Application of the substance / the preparation Dental luting cement

Manufacturer/Supplier:

VOCO GmbH Anton-Flettner-Str. 1-3

D-27472 Cuxhaven

Information department: Scientific department tel. +49 (0)-1721-719-0

· Emergency information: Scientific department tel. +49 (0)4721-719-0

2 Composition/Data on components

Chemical characterization

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components: 6606-59-3 HEDMA 1565-94-2 BIS-GMA Catalyst

3 Hazards identification

Hazard description:

Irritant

Information pertaining to particular dangers for man and environment:

The product has to be labelled due to the calculation procedure of international guidelines.

irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data

NFPA ratings (scale 0 - 4)

Health = 1 Fire = 0Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH 1 Health = ! 0 Fire = 0REACTIVITY O Reactivity = 0

4 First aid measures

After inhalation: Seek medical treatment in case of complaints.

After skin contact: Immediately wash with water and soop and rinse thoroughly.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. After swallowing: If symptoms persist consult doctor.

5 Fire fighting measures

Suitable extinguishing agents:

CO2. extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. (Contd. on page 2)

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Material Safety Data Sheet ucc. to ISO/DIS 11014

Printing date 03/25/2010

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(Contd of page 1)

Trade name: Bifix QM base

Protective equipment: No special measures required.

6 Accidental release measures

· Person-related safety precautions: Not required.

- Measures for environmental protection: Do not allow to enter sewers/ surface or ground water. Measures for cleaning/collecting:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

7 Handling and storage

- Handling:
- Information for safe handling: For dental use only.
- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- · Requirements to be met by storerooms and receptacles: See storage instructions on package
- Information about storage in one common storage facility; Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection

Additional information about design of technical systems: No further data; see item 7,

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

- Immediately remove all soiled and contaminated clothing.
- Avoid contact with the eyes and skin.

Protection of hands:



Protective gloves

Material of gloves

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

9 Physical and chemical properties

· General Information

Form:

Color:

Pasty Whitish

(Contd on page 3)

115A

Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 03/25/2010

Reviewed on 03/25/2010

Trade name: Bifix QM hase

Odor:		(Contd. of page 2
Odor:	Characteristic	
Change in condition Melting point/Melting range: Boiling point/Boiling range:	Undetermined. Undetermined.	
Flash point:	Not applicable.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Density:	Not determined.	
Solubility in / Miscibility with Water:	» Not miscible or difficult to mix.	

10 Stability and reactivity

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Dangerous reactions No dangerous reactions known.
- Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

- Acute toxicity:
- Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

12 Ecological information

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- Product:
- Recommendation:

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

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:

Hazard class:

(Contd. on page 4)

Obtained by Global Safety Management, www.globalsafetynet.com, (877) 683-7460

Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 03/25/2010

Reviewed on 03/25/2010

Trade name: Bifix QM base

(Contd. of page 3)

Land transport ADR/RID (cross-burder): ADR/RID class: -

Maritime transport IMDG:

· IMDG Class:

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: ICAO/IATA Class: -

15 Regulations

Sura Section 355 (extremely hazardous substances): None of the ingredients is listed. · Section 313 (Specific toxic chemical listings): None of the ingredients is listed. TSCA (Toxic Substances Control Act): 6606-59-3 HEDMA Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive taxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. · Chemicals known to cause developmental toxicity: Contact Voco for more informations Cancerogenity categories - EPA (Environmental Protection Agency) Contact Voco for more information · IARC (International Agency for Research on Cancer) Contact Voco for more information NTP (Nutional Toxicology Program) Contact Voco for more informations TLV (Threshold Limit Value established by ACGIH) Contact Voco for more Information · NIOSH-Ca (National Institute for Occupational Safety and Health) Contact Voco for more information · OSHA-Ca (Occupational Sufety & Health Administration) None of the ingredients is listed. Canadian substance listings: Canadian Domestic Substances List (DSL) Contact Voco for more informations · Canadian Ingredient Disclosure list (limit 0.1%) Contact Voco for more informations Canadian Ingredient Disclosure list (limit 1%) Contact Voco for more informations (Contd. on page 5)

Material Safety Data Sheet acc. 10 ISO/DIS 11014

Printing date 03/25/2010

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Reviewed on 03/25/2010

Trade name: Biftx QM base	
Cond of page .	
Product related hozard informations: The product has been classified and marked in accordance with directives on hazardous materials.	
Hazard symbols:	
Lerliant	
· Risk phrases: Irritating to eyes and skin.	
Safety phrases: In case of contact with eyes, riuse (mmediately with plenty of seator and seek medical advice. After contact with skin, wash immediately with plenty of support water. Wear suitable gloves and eyriface protection.	
16 Other information	
This information is based on our present knowledge. However, this shall not constitute a guarantee for an specific product features and shall not establish a legally valid contractual relationship.	ÿ
Department issuing MSDS: Scientific departement	

· Contact: Tel.: +49 (0)-1721-719-0

Printing date 05.01.2015

Version number 9

Revision: 05.01.2015

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

· Product identifier

• Trade name: Ceramic Bond

• **Relevant identified uses of the substance or mixture and uses advised against** Non-dental use. • **Application of the substance / the preparation** Bonding

· Details of the supplier of the safety data sheet

• Manufacturer/Supplier: VOCO GmbH Anton-Flettner-Str. 1-3 D-27472 Cuxhaven

• Further information obtainable from: Scientific department tel. +49 (0)4721-719-0

• Emergency telephone number: Poison Control Center Mainz +49 (0)6131-19240

2 Hazards identification

· Classification of the substance or mixture

• Classification according to Directive 67/548/EEC or Directive 1999/45/EC Xi; Irritant

R36: Irritating to eyes.

F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment:

Not applicable.

The product does not have to be labelled due to the calculation procedure of the regulation 1272/2008/EC in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

• Labelling according to EU guidelines:

As a medical device the product is not subject to labelling regulations under 1272/2008/EC.

Code letter and hazard designation of product:

×ð

Xi Irritant F Hi ghly flammable

· Safety phrases:

- 9 *Keep container in a well-ventilated place.*
- 16 Keep away from sources of ignition No smoking.

23 Do not breathe aerosol.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

• Other hazards Use only for intended scope of application

3 Composition/information on ingredients

· Chemical characterization: Mixtures

• Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous compone	ents:		
CAS: 67-64-1	acetone	Xi R36; F R11	50-100%
EINECS: 200-662-2		R66-67	

(Contd. on page 2)

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Printing date 05.01.2015

Version number 9

Revision: 05.01.2015

Trade name: Ceramic Bond

(Contd. of page 1)

4 First aid measures

- · Description of first aid measures
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: If symptoms persist consult doctor.

5 Firefighting measures

- · Extinguishing media
- Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- · Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.
- · 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.

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace. For dental use only.

- Information about fire and explosion protection: Keep ignition sources away Do not smoke.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: See storage instructions on package
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep container tightly sealed.

8 Exposure controls/personal protection

• Additional information about design of technical facilities: No further data; see item 7.

· Control parameters

· Ingredients with limit values that require monitoring at the workplace:

67-64-1 acetone

WEL Short-term value: 3620 mg/m³, 1500 ppm

Long-term value: 1210 mg/m³, 500 ppm

• Additional information: The lists valid during the making were used as basis.

(Contd. on page 3)

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Revision: 05.01.2015

(Contd. of page 2)

Trade name: Ceramic Bond

· Exposure controls

· Personal protective equipment:

• General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

· Protection of hands: Not required.

• Material of gloves Not applicable.

· Penetration time of glove material Not applicable.

· Eye protection: Safety glasses

9 Physical and chemical pro	operties
· Information on basic physical · General Information	and chemical properties
· Appearance:	
Form:	Fluid
Colour:	Colourless
· Odour:	Characteristic
· pH-value:	Not determined.
• Change in condition Melting point/Melting range: Boiling point/Boiling range:	
· Flash point:	-19°C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	465°C
· Self-igniting:	Product is not selfigniting.
• Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Density at 20°C:	$0.79 \ g/cm^3$
 Solubility in / Miscibility with water: Other information 	Not miscible or difficult to mix. No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

· LD/LC50 values relevant for classification:

67-64-1 acetone

Oral LD50 5800 mg/kg (rat)

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Trade name: Ceramic Bond

Dermal LD50 20000 mg/kg (rabbit)

• Primary irritant effect:

• on the skin: No irritant effect.

• on the eye: Irritating effect.

• Sensitization: No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: Irritant

12 Ecological information

· Toxicity

- Acquatic toxicity: No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

· Waste treatment methods

· Recommendation

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

- · Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

4 Transport information	n	
· UN-Number · ADR, IMDG, IATA	UN1090	
· UN proper shipping nam	e -	
$\cdot ADR$	1090 ACETONE	
· IMDG, IATA	ACETONE	
· Transport hazard class(e	5) -	
·ADR		
e		
· Class	3 Flammable liquids.	
· Label	3	
· IMDG, IATA		
e		
· Class	3 Flammable liquids.	
· Label	3	
· ADR, IMDG, IATA	II	
Marine pollutant:	No	
• Danger code (Kemler):	33	
	(Contd. on pag	e 5

Printing date 05.01.2015

Version number 9

Revision: 05.01.2015

Trade name: Ceramic Bond

		(Con	ntd. of page 4)
· EMS Number:	<i>F-E,<u>S-E</u></i>		
·ADR			
· Limited quantities (LQ)	1L		
· Transport category	2		
• Tunnel restriction code	D/E		

15 Regulatory information

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.

· Department issuing MSDS: Scientific department

• Contact: Tel.: +49 (0)4721-719-0

GB -

Printing date 13.05.2015

Version number 14

Revision: 13.05.2015

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

• 1.1 Product identifier

· Trade name: Ceramic Bond

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 Bonding

· 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

VOCO GmbH

Anton-Flettner-Str. 1-3 D-27472 Cuxhaven

D-2/4/2 Cuxnaven

• Further information obtainable from: Scientific department_tel. +49 (0)4721-719-0

• 1.4 Emergency telephone number: Poison Control Center Main: +49 (0)6131-19240

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Eye Irrit. 2 H319 Causes serious eye irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

As a medical device the product is not subject to labelling regulations under 1272/2008/EC.

- · Hazard pictograms GHS02, GHS07
- Hazard statements Highly flammable liquid and vapour. Causes serious eye irritation.

Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking, Wear protective gloves / eye protection.

Wear protective clothing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses. if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

- 2.3 Other hazards Use only for intended scope of application
- · Results of PBT and vPvB assessment

• **PBT:** Not applicable.

• **vPvB:** Not applicable

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 67-64-1 acetone EINECS: 200-662-2

Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3. H336

50-100%

SECTION 4: First aid measures

• 4.1 Description of first aid measures

- · After inhalation: Seek medical treatment in case of complaints.
- · After skin contact: Generally the product does not irritate the skin.

· After eye contact:

- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.

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Trade name: Ceramic Bond

(Contd. of page 1)

- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
 4.3 Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- . 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- . 6.2 Environmental precautions: 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).
- 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 sufe handling Ensure good ventilation/exhaustion at the workplace.
 For dental use only.
- · Information about fire and explosion protection: Keep ignition sources away Do not smoke.
- · 7.2 Conditions for safe storage, including any incompatibilities
- Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- See storage instructions on package
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data: see item 7.

· 8. I Control parameters

Ingredients with limit values that require monitoring at the workplace:

67-64-1 acetone (50-100%)

WEL Short-term value: 3620 mg/m³, 1500 ppm

Long-term value: 1210 mg/m³, 500 ppm

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.

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Trade name: Ceramic Bond

(Contd of page 2)

Avoid contact with the eyes and skin.

• Protection of hands: Not required. • Material of gloves Not applicable.

· Eye protection: Safety glasses

SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical properties **General Information** · Appearance: Form: Fluid Colour: Colourless Odour: Characteristic **Odour** threshold: Not determined. · pH-value: Not determined. · Change in condition Melting point/Melting range: Undetermined. Boiling point/Boiling range: Undetermined. · Flash point: -19°C · Flammability (solid, gaseous): Not applicable. Decomposition temperature: Not determined. Self-igniting: Product is not selfigniting. · Danger of explosion: Product is not explosive. However, formation of explosive air/ vapour mixtures are possible. Density at 20 °C: 0.79 g/cm3 **Relative density** Not determined. Vapour density Not determined. **Evaporation** rate Not determined. Solubility in / Miscibility with Not miscible or difficult to mix. water: Partition coefficient (n-octanol/water): Not determined. Viscosity: Dynamic: Not determined. Kinematic: Not determined. 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

(Contd. on page 4)

Printing date 13.05.2015

Version number 14

Revision: 13.05.2015

Trade name: Ceramic Bond

(Contd. of page 3)

SECTION 11: Toxicological information

• 11.1 Information on toxicological effects

• Acute toxicity:

· LD/LC50 values relevant for classification:

67-64-1 acetone

Oral [LD50] 5800 mg/kg (rat)

Dermal LD50 20000 mg/kg (rabbit)

Primary irritant effect:

on the skin: No irritant effect.

- on the eye: Irritating effect.
- · Sensitization: No sensitizing effects known.
- Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: Irritant

SECTION 12: Ecological information

· 12.1 Toxicity

- · Aquatic toxicity: No further relevant information available.
- 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:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

· PBT: Not applicable.

- · vPvB: Not applicable.
- · 12.6 Other adverse effects No further relevant information available.

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.

· Uncleaned packaging:

· Recommendation: Disposal must be made according to official regulations.

14.1 UN-Number		
ADR, IMDG, IATA	UN1090	
14.2 UN proper shipping name	-	
ADR	1090 ACETONE	
IMDG, IATA	ACETONE	

Version number 14

Revision: 13.05.2015

Trade name: Ceramic Bond

Printing date 13.05.2015

		(Contd. of pag
14.3 Transport hazard class(es)	-	
ADR, IMDG, IATA		
A		
Class	2 El	
Label	3 Flammable liquids. 3	
	5	
14.4 Packing group	-	
ADR, IMDG, IATA		
14.5 Environmental hazards:	Not applicable.	
Marine pollutant:	No	
14.6 Special precautions for user	Not applicable.	
	Warning: Flammable liquids.	
Danger code (Kemler):	33	
EMŠ Number:	F-E,S-E	
14.7 Transport in bulk according to Anne	ex II of	
MARPOL 73/78 and the IBC Code	Not applicable.	
Transport/Additional information:		
ADR		
Limited quantities (LQ)	IL.	
Transport category	2	
Tunnel restriction code	D/E	
UN "Model Regulation":	UN1090, ACETONE, 3, 11	

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

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.

- Department issuing MSDS: Scientific department
- Contact: Tel.: +49 (0)4721-719-0
- Abbreviations and acronyms:

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 Harmonized 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)
- LC50: Lethal concentration, 50 percent
- 1.D50: Lethal dose, 50 percent
- Flam. Liq. 2: Flammable liquids, Hazard Category 2 Eye Irrit. 2: Serious eye damage/eye irritation. Hazard Category 2
- STOT SE 3: Specific target organ taxicity Single exposure. Hazard Category 3

Printing date 09/21/2016

Reviewed on 09/21/2016

1 Identification

- · Product identifier
- · Trade name: Bifix QM base
- · Application of the substance / the mixture Dental luting cement
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: VOCO GmbH Anton-Flettner-Str. 1-3 D-27472 Cuxhaven

- Information department: Scientific department tel. +49 (0)4721-719-0
- Emergency telephone number: Scientific department tel. +49 (0)4721-719-0

2 Hazard(s) identification

Health effects are based on the unmixed/uncured material. Under FDA regulations this product is classified as a medical device. Medical devices are exempt from the labelling provisions of GHS according to the Hazard Communication Standard (HCS). · Classification of the substance or mixture Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2A H319 Causes serious eye irritation. Skin Sens. 1 H317 May cause an allergic skin reaction. · Label elements · Hazard pictograms GHS07 · Signal word Warning · Hazard statements Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. · Precautionary statements Wear protective gloves / eye protection. Wear protective clothing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. Dispose of contents/container in accordance with local/regional/national/international regulations. · Other hazards Use only for intended scope of application · Results of PBT and vPvB assessment · **PBT:** Not applicable. · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

• Description: Mixture of the substances listed below with nonhazardous additions.

• Dangerous components: 1565-94-2 BIS GMA

Skin Irrit. 2, H315; Eve Irrit. 2A, H319; Skin Sens. 1, H317

(Contd. on page 2)

10-25%

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix QM base

6606-59-3 1,6-hexanediylbismethacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335 (Contd. of page 1) 10-25%

4 First-aid measures

- \cdot Description of first aid measures
- After inhalation: Seek medical treatment in case of complaints.
- $\cdot \textit{After skin contact: Immediately wash with water and so ap and rinse thoroughly.}$
- · After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.
- Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- \cdot Indication of any immediate medical attention and special treatment needed
- $No\ further\ relevant\ information\ available.$

5 Fire-fighting measures

- · Extinguishing media
- \cdot Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- \cdot Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- · 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.

7 Handling and storage

- · Handling:
- Precautions for safe handling For dental use only.
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: See storage instructions on package
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

(Contd. on page 3)

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix QM base

(Contd. of page 2)

- · Control parameters
- Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures:
- *The usual precautionary measures for handling chemicals should be followed. Avoid contact with the eyes and skin.*
- · Protection of hands:



Protective gloves

· Material of gloves

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Eye protection: Safety glasses

9 Physical and chemical properties

Laforna etion on havin aluminal	and abandon lance antice
 Information on basic physical General Information 	ana cnemical properties
· Appearance:	
Form:	Pasty
Color:	Whitish
· Odor:	Characteristic
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density:	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
• Other information	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

· Chemical stability

- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.

(Contd. on page 4)

Printing date 09/21/2016

Trade name: Bifix OM base

Reviewed on 09/21/2016

(Contd. of page 3)

3

- Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- Sensitization: Sensitization possible through skin contact.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

128-37-0 2,6-di-tert-butyl-p-cresol

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:
- Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- *Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- · Uncleaned packagings:
- *Recommendation:* Disposal must be made according to official regulations.

(Contd. on page 5)

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix QM base

(Contd. of page 4)

Transport information		
· UN-Number · DOT, ADR, ADN, IMDG, IATA	Void	
· UN proper shipping name · DOT, ADR, ADN, IMDG, IATA	Void	
· Transport hazard class(es)		
· DOT, ADR, ADN, IMDG, IATA · Class	Void	
· Packing group · DOT, ADR, IMDG, IATA	Void	
Environmental hazards: Marine pollutant:	No	
Special precautions for user	Not applicable.	
• Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
· UN ''Model Regulation'':	Void	

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture · Sara

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

One or more substances contained in this material are not listed on the TSCA Inventory. Contact VOCO for more information.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients are listed

· TLV (Threshold Limit Value established by ACGIH)

Contact VOCO for more information.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

• Hazard pictograms GHS07

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix OM base

(Contd. of page 5) · Signal word Warning · Hazard statements Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. · Precautionary statements Wear protective gloves / eye protection. Wear protective clothing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. Dispose of contents/container in accordance with local/regional/national/international regulations. **16 Other information** The information contained herein is based on our present knowledge and is believed to be correct at the date issued. The information is subject to change without notice. However, all information, statements,

recommendations or suggestions shall not constitute any guarantee, representation or warranty, expressed or implied.

Final determination whether the product is fit and suitable for a particular purpose and the user's method of use or application is the sole responsibility of the user.

- · Department issuing SDS: Scientific department
- · Contact: Tel.: +49 (0)4721-719-0
- · Date of preparation / last revision 09/21/2016 / 8
- Abbreviations and acronyms:

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 DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

PBT: Persistent, Bioaccumulative and Toxic

- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Skin Irrit. 2: Skin corrosion/irritation Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation Category 2A Skin Sens. 1: Skin sensitisation – Category 1
- STOT SE 3: Specific target organ toxicity (single exposure) Category 3

 \cdot * Data compared to the previous version altered.

Printing date 09/21/2016

Reviewed on 09/21/2016

1 Identification

- · Product identifier
- · Trade name: Bifix QM catalyst
- · Application of the substance / the mixture Dental luting cement
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: VOCO GmbH Anton-Flettner-Str. 1-3 D-27472 Cuxhaven

- Information department: Scientific department tel. +49 (0)4721-719-0
- Emergency telephone number: Scientific department tel. +49 (0)4721-719-0

2 Hazard(s) identification

Health effects are based on the unmixed/uncured material. Under FDA regulations this product is classified as a medical device. Medical devices are exempt from the labelling provisions of GHS according to the Hazard Communication Standard (HCS). · Classification of the substance or mixture Skin Irrit. 2 H315 Causes skin irritation. Skin Sens. 1 H317 May cause an allergic skin reaction. Eye Irrit. 2B H320 Causes eye irritation. · Label elements · Hazard pictograms GHS07 · Signal word Warning · Hazard statements Causes skin and eye irritation. May cause an allergic skin reaction. · Precautionary statements Wear protective gloves / eye protection. Wear protective clothing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. Dispose of contents/container in accordance with local/regional/national/international regulations. · Other hazards Use only for intended scope of application · Results of PBT and vPvB assessment · PBT: Not applicable. · vPvB: Not applicable. **3** Composition/information on ingredients · Chemical characterization: Mixtures · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

6606-59-3 1,6-hexanediylbismethacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335

(Contd. on page 2)

10-25%

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix QM catalyst

1565-94-2 BIS GMA

(Contd. of page 1) 10-25%

4 First-aid measures

- · Description of first aid measures
- · After inhalation: Seek medical treatment in case of complaints.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.

Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317

- · After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.
- Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- · 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.

7 Handling and storage

- · Handling:
- · Precautions for safe handling For dental use only.
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: See storage instructions on package
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

(Contd. on page 3)

Printing date 09/21/2016

Reviewed on 09/21/2016

(Contd. of page 2)

Trade name: Bifix QM catalyst

Control parameters
 Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures:
- *The usual precautionary measures for handling chemicals should be followed. Avoid contact with the eyes and skin.*
- · Protection of hands:



Protective gloves

· Material of gloves

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Eye protection: Safety glasses

P Physical and chemical pro	•
• Information on basic physical of	and chemical properties
· General Information	
· Appearance:	Darata
Form:	Pasty
Color:	Whitish
01	Different according to coloring
· Odor:	Characteristic
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Density:	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
• Other information	No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

(Contd. on page 4)

Printing date 09/21/2016

Reviewed on 09/21/2016

(Contd. of page 3)

Trade name: Bifix QM catalyst

- · Possibility of hazardous reactions No dangerous reactions known.
- *Conditions to avoid No further relevant information available.*

• *Incompatible materials:* No further relevant information available.

• Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

- · Primary irritant effect:
- \cdot on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- \cdot Additional toxicological information:
- The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

128-37-0 2,6-di-tert-butyl-p-cresol

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:
- Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- **vPvB:** Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- · Recommendation:

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

- · Uncleaned packagings:
- *Recommendation:* Disposal must be made according to official regulations.

(Contd. on page 5)

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix QM catalyst

(Contd. of page 4)

Transport information	
· UN-Number · DOT, ADR, ADN, IMDG, IATA	Void
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· DOT, ADR, ADN, IMDG, IATA · Class	Void
· Packing group · DOT, ADR, IMDG, IATA	- Void
Environmental hazards: Marine pollutant:	No
Special precautions for user	Not applicable.
• Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.
· UN ''Model Regulation'':	Void

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture · Sara

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

One or more substances contained in this material are not listed on the TSCA Inventory. Contact VOCO for more information.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients are listed

· TLV (Threshold Limit Value established by ACGIH)

Contact VOCO for more information.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

• Hazard pictograms GHS07

Printing date 09/21/2016

Reviewed on 09/21/2016

Trade name: Bifix QM catalyst

(Contd. of page 5) · Signal word Warning · Hazard statements Causes skin and eye irritation. May cause an allergic skin reaction. · Precautionary statements Wear protective gloves / eye protection. Wear protective clothing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. Dispose of contents/container in accordance with local/regional/national/international regulations. 16 Other information The information contained herein is based on our present knowledge and is believed to be correct at the date issued. The information is subject to change without notice. However, all information, statements, recommendations or suggestions shall not constitute any guarantee, representation or warranty, expressed or implied. Final determination whether the product is fit and suitable for a particular purpose and the user's method of use or application is the sole responsibility of the user. · Department issuing SDS: Scientific department · Contact: Tel.: +49 (0)4721-719-0 • Date of preparation / last revision 09/21/2016 / 9 Abbreviations and acronyms: 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 DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists 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) PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit Skin Irrit. 2: Skin corrosion/irritation - Category 2 Eye Irrit. 2A: Serious eye damage/eye irritation - Category 2A Eye Irrit. 2B: Serious eye damage/eye irritation - Category 2B Skin Sens. 1: Skin sensitisation – Category 1 STOT SE 3: Specific target organ toxicity (single exposure) - Category 3 \cdot * Data compared to the previous version altered.