

Safety Data Sheet CMR-433/CMR-433.M Tarpaulin Clear Coat (high-gloss/matt)

according to Regulation (EU) 2015/830

02.01.20

Version: V-2020-001

HR 1068 [D]

SECTION 1

Identification of the substance/mixture and of the company

1.1 Product identifier

CMR-433/CMR-433.M

1.2 Relevant identified uses of the substance or mixture and uses advised against

Last Revision:

Relevant identified uses:

1C Protective film for tarpaulins and foils

1.3 Details of the supplier of the safety data sheet

Manufacturer/Distributor CMR Coatings GmbH

Address/POB Wilhelmstr. 8
IVR/ZIP/Place D-32602 Vlotho

E-Mail <u>info@cmr-coatings.de</u>

Telephone +49 (0) 57 33 – 96 35 – 260

Fax +49 (0) 57 33 – 96 35 – 263

Department of MSDS <u>info@cmr-coatings.de</u>

1.4 Emergency telephone number

+49 (0) 57 33 - 96 35 - 260 (Monday - Friday, 8:00 - 16:00)

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Serious eye damage / Eye irritation, Category 2, H319

For the full text of the hazard statements listed in this section, see section 16.

2.2 Label elements



Code: GHS07

Signal word: Warning



Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

Additional information for labelling

EUH208 "Contains mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-

isothiazol-3-one (3:1), 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction."

Additional information for labelling

EUH210 Safety data she Safety data sheet available on request.

2.3 Other hazards

The results of the PBT and vPvB assessment can be found in subsection 12.5.

SECTION 3 Composition/information on ingredients

3.1 Substances

This product is a mixture.

3.2 Mixtures

Aqueous plastic dispersion with additives.

Composition / information on ingredients

Composition / infor	mation on ingredients	
EC-No.	REACH-No.	
CAS-No.	Designation	Portion
INDEX-No.	Classification	
200-664-3	01-2119431362-50-0001	
67-68-5	Dimethyl sulfoxide	5,40%
67674-67-3	3-(Polyoxyethylene)propylheptamethyltrisiloxane	1,30%
	Acute Tox. 4 H332; Eye Dam. 1 H318; Aquatic Chronic 2; H411	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
204-469-4	01-2119475467-26-XXXX	
121-44-8	Triethylamine	0,54%
612-004-00-5	Flam. Liq. 2; H225 / Acute Tox. 4; H302 / Acute Tox. 3; H311 /	
	Acute Tox. 3; H331 / Skin Corr. 1A; H314 / Eye Dam. 1; H318 /	
	STOT SE 3; H335	
	Specific concentration limit (SCL):	
	STOT SE 3 H335 >=1%	

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220-120-9		
2634-33-5	1,2-benzisothiazol-3(2H)-one	<0,01%
613-088-00-6	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318;	
	Skin Sens. 1, H317; Aquatic Acute 1, H400 (M=1)	
	Aquatic Chronic 2; H411	
	Specific concentration limit (SCL):	
	Skin Sens. 1; H317 >= 0,05%	
55965-84-9	Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and	<0,0015%
613-167-00-5	2-methyl-2H-isothiazol-3-one (3:1)	
	Acute Tox. 3, H301; Acute Tox. 2, H310; Acute Tox. 2, H330	
	Skin Corr. 1B; H314, Skin Irrit.2, H315; Eye Dam. 1, H318	
	Eye Irrit. 2, H319; Skin Sens. 1, H317;	
	Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=10)	
	Specific concentration limit (SCL):	
	Skin Corr. 1B; H314 >= 0,6% / Skin Irrit.2; H315	
	0,06% < C < 0,6% / Eye Irrit. 2, H319 0,06% < C < 0,6%	
	Skin Sens. 1; H317 >= 0,0015%	

The wording of the classification codes is in section 16.

SECTION 4 First aid measures

4.1 Description of first aid measures

General advice Consult a physician. Show this safety data sheet to the doctor

in attendance.

If inhaled Remove the person to fresh air, in case of indisposition obtain

medical advice.

Skin contact Take off contaminated clothing. Wash off affected skin with plenty of

water using soap in case of indisposition obtain medical advice.

Eye contact Spreading the eyelids, rinse thoroughly under running water, see an

eye specialist.

If swallowed Never fuse anything through the mouth of an unconscious person.

Do not induce vomiting if swallowed - see a physician.

Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

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SECTION 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, CO2, dry chemical, foam.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Thermal decomposition to carbon monoxide, carbon dioxide, sulfur oxides (SOx), silicon oxide, hydrogen cyanide and organic cracked compunds (et al acrylic monomers, formaldehyde).

Dimethyl sulfoxide decomposes to sulfur oxides (SOx) at temperatures above 189 ° C.

5.3 Advice for firefighters

Tightly closing fireproof clothing and oxygen apparatus.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency

See section 8 "Exposures controls/personal protection".

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow the product to enter waters.

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Pick up with an inert absorbable material and dispose according to local regulations, unless otherwise usable.

6.4 Reference to other sections

For disposal, see section 13.

SECTION 7 Handling and storage

7.1 Precautions for safe handling

Keep container cool and tightly closed, take care of sufficient ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Keep away container from strong oxidising agents. Cool endangered containers with sprinkling water. Keep away from frost.

7.3 Specific end uses

No data available.

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SECTION 8

Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters (2000/39/EC)

Triethylamine		
EG-No. 204-469-4 / CAS-No. 121-44-8 / Index-No. 612-004-00-5		
TWA:	8,4 mg/m³	2 ppm
STEL:	12,6 mg/m ³	3 ppm
Remark: Skin	Can be absorbed through the skin.	

Components with workplace control parameters (TRGS 900 Germany)

Dimethyl sulfoxide		
EG-No. 200-664-3 / CAS-No	. 67-68-5	
AGW	160 mg/m ³	50 ml/m ³
Peak limit	2 (I)	
Remarks		DFG, Z, H

Triethylamine		
EG-No. 204-469-4 / CAS-No. 121-44-8 / Index-No. 612-004-00-5		
AGW	4,2 mg/mg ³	1 ppm
Peak limit	2(I)	
Remarks	*1)	DFG, EU, H, (6)

^{* 1):} Senate Commission for the Testing of Harmful Working Materials of the German Research Foundation (MAK Commission). European Union. (The EU has set an air limit: Deviations in value and peak limitation are possible.) Skinresorptive. Reaction with nitrosating agents can lead to the formation of the corresponding carcinogenic N-nitrosoamines.

Polyethylenglykole		
CAS-No.: 25322-68-3		
AGW		
(Inhalable fraction):	1.000 mg/m ³	
Peak limit	8 (II)	
Remarks	*2)	DFG, Y

^{* 2):} Senate Commission for the Testing of Harmful Working Materials of the DFG (MAK Commission), There is no need to fear a risk of teratogenic effects if the workplace limit value and the biological limit value (BGW) are observed.

Components with biological limit values (TRGS 903 Germany)

none

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DNEL:

Dimethyl sulfoxide				
EG-No. 200-664-3 / CAS-No. 67-68-5	EG-No. 200-664-3 / CAS-No. 67-68-5			
Worker - long term - dermal, systemic effect 200 mg/kg bw/d				
Worker - long term - inhalative, local effect	265 mg/m³			
Consumer - long term - oral, systemic effect	60 mg/kg bw/d			
Consumer - long term - dermal, systemic effect 100 mg/kg bw/d				
Consumer - long term - inhalative, local effect	47 mg/m³			

Triethylamine				
EG-No. 204-469-4 / CAS-No	EG-No. 204-469-4 / CAS-No. 121-44-8 / Index-No. 612-004-00-5			
Worker - long term - inhalative, systemic effect 8,4 mg/m³				
Worker - long term - inhalative, local effect		8,4 mg/m³		
Worker - acute - inhalative, systemic effect		12,6 mg/m³		
Worker - acute - inhalative, local effect		12,6 mg/m³		
Worker - long term - dermal, systemic effect		12,1 mg/kg bw/d		

PNEC:

Dimethyl sulfoxide			
EG-No. 200-664-3 / CAS-No. 67-68-5			
Aquatic, freshwater	17 mg/L		
Aquatic, marine water	1,7 mg/L		
Sewage treatment plant (STP) (sporadic release)	11 mg/L		
Sediment (based on dryweight)	16,4 mg/kg		
Soil (based on dryweight)	3,02 mg/kg		
Oral (Food)	7000 mg/kg		

Triethylamine			
EG-No. 204-469-4 / CAS-No. 121-44-8 / Index-No. 612-004-00-5			
Aquatic, freshwater		0,11 mg/l	
Aquatic, marine water		0,011 mg/l	
Sediment, freshwater		1,575 mg/kg	
Sediment, marine water		0,158 mg/kg	
Sewage treatment plant (ST	P)	100 mg/l	
Soil		0,25 mg/kg	

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with the skin and the eyes. When using do not eat, drink or smoke; preventive skin protection.

Personal protective equipment

Respiratory protection In case of exceeding the permitted exposure limit in closed rooms

use a self-contained breathing apparatus.

Recommended filter type: A

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Eye protection Tightly sealed goggles recommended.

Wear face protection if there is a risk of splashing.

Skin protection Wear suitable protective gloves. Observe the information provided by the

manufacturer in regard to permeability and breakthrough time as well as the special conditions at the workplace (mechanical stress, contact duration). Protective gloves

should be replaced at the first signs of wear.

Material:Butyl rubberBreakthrough time:>= 480minGlove thickness:0,5mm

Body Protection Solvent-resistant protective clothing made of rubber or plastic is recommended.

Wear a rubber apron if there is a risk of splashing.

8.3 Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not allow the product to enter waters.

Discharge into the environment must be avoided.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:

Aggregate state: liquid
Colour: milky white

Odour: slight individual odour

Melting point/freezing point:

Not available.

Initial boiling point/boiling range: 100 $^{\circ}$ C Flash point: > 100 $^{\circ}$ C

Flammability:
Ignition temperature:
Auto flammability:
Oxidising properties:
Explosive properties:
Explosion limits:
Iower
Upper
Not applicable.
Not applicable.
Not applicable.
Not applicable.
Not applicable.
Not applicable.

Water solubility: $(T = 20 \, ^{\circ}C)$ Dispersible in each ratio.

Vapour pressure: $(T = 20 \, ^{\circ}\text{C})$ Not available. Vapour density (air = 1): Not available. Partition coefficient (n-octanol/water): Not available. Solids content 32 - 38 %

Density: $(T = 20 \, ^{\circ}\text{C})$ 1.05 g/cm³ pH value: $(T = 20 \, ^{\circ}\text{C})$ 7,5 - 8,5

Viscosity - kin. (4 mm DIN flow cup): $(T = 20 \, ^{\circ}\text{C})$ 15 - 20 s CMR-433 Viscosity - kin. (4 mm DIN flow cup): $(T = 20 \, ^{\circ}\text{C})$ 25 - 30 s CMR-433.M

Separation of solvent:

Volatiles/VOC:

Evaporation rate:

Not applicable.

Approx. 6 %

Not available.

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9.2 Other information

No data available.

SECTION 10 Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Triethylamine and dimethyl sulfoxide are released during application and drying.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Frost, heat

10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong reducing agents

10.6 Hazardous decomposition products

In case of fire only, see section 5.2.

SECTION 11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Mixture

No data available.

Components

Dimethyl sulfoxide		
EG-No. 200-664-3 / CAS-No. 67-68-5		
oral, rat, LD50	28300 mg/kg	
dermal, rat, LD50	40000 mg/kg	
inhalativ, LC50	> 5330 mg/l	
(vapour, 4h)		

3-(Polyoxyethylene)propylheptamethyltrisiloxane			
CAS-No. 67674-67-3		_	
oral, rat, LD50	> 5050 mg/kg		
dermal, rabbit, LD50	> 2000 - 5000 mg/kg		
inhalative, rabbit, LC50	2,3 mg/l		
(dust/ mist 4h)			



Triethylamine		
EG-No. 204-469-4 / CAS-No. 121-44-8 / Index-No. 612-004-00-5		
oral, rat, LD50	730 mg/kg	
dermal, rabbit, LD50	580 mg/kg	
inhalative, rat, LC50	7,22 mg/l	
(vapour, 4h)		

1,2-benzisothiazol-3(2H)-o	ne	
EC-No. 220-120-9 / CAS-No. 2634-33-5 / Index-No. 613-088-00-6		
oral, rat, LD50	1193 mg/kg	
dermal, rat, LD50	4115 mg/kg	

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and		
2-methyl-2H-isothiazol-3-one (3:1)		
CAS-No. 55965-84-9 / Index-No. 613-167-00-5		
oral, rat, LD50	66 mg/kg	
dermal, rat, LD50	141 mg/kg	
inhalativ, LC50	0,17 mg/l	
(dust and mist, 4h)		

Skin corrosion/irritation

No data available.

Serious eye damage/irritation

Mixture

Causes serious eye irritation.

Components

3-(Polyoxyethylene)propylheptamethyltrisiloxane		
CAS-No. 67674-6	3 7-3	
Species:	rabbit	
Result:	Irreversible damage to the eyes	

Respiratory or skin sensitisation

Mixture

May cause an allergic skin reaction

Germ cell mutagenicity

No data available.

Carcinogenicity

Mixture

No data available.

Components

Triethylamine

Triethylamine can form nitrosamines with nitrosating agents (e.g. nitrites, nitrogen oxides) under special conditions. Nitrosamines have been shown to be carcinogenic in animal experiments.

Reproductive toxicity

No data available.

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Specific Target Organ Toxicity - single exposure

Mixture

No data available.

Components

Triethylamine (0,22%)

EG-No. 204-469-4 / CAS-No. 121-44-8 / Index-No. 612-004-00-5

Classification of the substance: Category 3

SCL: Category 3: 1%

Specific Target Organ Toxicity - repeated exposure

No data available.

Aspiration hazard

No data available.

Other information

No data available.

11.2 Additional information

Triethylamine

Causes liver and kidney damage in experimental animals.

SECTION 12 Ecological information

12.1 Toxicity

Dimethyl sulfoxide

Fish toxicity, LC50, Danio rerio (Zebrafish):	> 25000 mg/l (96h)
Daphnia toxicity, Daphnia magna; EC50:	24600 mg/l (48h)
Bacteria toxicity, activated sludge, EC50:	10 - 100 mg/l (0,5h)

3-(Polyoxyethylene)propylheptamethyltrisiloxane

Fish toxicity, LC50: >1 - 10 mg/l (96h)

Remark: Based on test data from similar materials

Daphnia toxicity, EC50, Daphnia sp. (Water flea): >1 - 10 mg/l (48h)

Remark: Based on test data from similar materials

Toxic to aquatic life with long-lasting effects

Triethylamine

Fish toxicity, LC50, Oryzias latipes (Japanese rice fish):	24 mg/l (96h)
Daphnia toxicity, LC50, Ceriodaphnia spec:	17 mg/l (48h)
Algae toxicity, EC50, Desmodus Desmodesmus subspicatus:	24,8 mg/l (96h)
NOEC (Fish), Oncorhynchus mykiss (Rainbow trout):	3,2 mg/l (60d)
NOEC (Daphnia), Daphnia magna (Big water flea):	11 mg/l (21d)
Bacteria toxicity, EC50, Pseudomonas putida:	95 mg/l (17h)

1.2-benzisothiazol-3(2H)-one

1,2 8011210011110201 0(211) 0110	
Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout):	2,18 mg/l (96h)
Daphnia toxicity, EC50, Daphnia magna:	2,94 mg/l (48h)
Algae toxicity, ErC50, Pseudokirchneriella subcapitata:	0,11 mg/l (72h)
NOEC (Algae), Skeletonema costatum:	0,027 mg/l (72h)



Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout):

0,188 mg/l (96h)

Daphnia toxicity, EC50, Daphnia magna:

0,126 mg/l (48h)

Algae toxicity, EC50, Selenastrum capricornutum:

0,027 mg/l (72h)

NOEC (Fish), Oncorhynchus mykiss (Rainbow trout):

0,098 mg/l (28d)

NOEC (Fish), Daphnia magna(Big water flea):

0,004 mg/l (21d)

NOEC (Algae), Pseudokirchneriella subcapitata:

0,0012 mg/l (72h)

Bacteria toxicity, EC50:

12.2 Persistence and degradability

Dimethyl sulfoxide

Result: 31% (exposure duration: 28 d) (OECD 301 D)

not readily biodegradable

Triethylamine

readily biodegradable (according to OECD criteria)

1,2-benzisothiazol-3(2H)-one

Readily biodegradable

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and

2-methyl-2H-isothiazol-3-one (3:1)

Readily biodegradable

12.3 Bioaccumulative potential

Dimethyl sulfoxide

Result: 3.16 BCF (QSAR)

Due to the distribution coefficient n-octanol / water, an accumulation in

organisms is not expected.

12.4 Mobility in soil

Dimethyl sulfoxide

Result: 0,64 Log Koc

12.5 Results of PBT and vPvB assessment

According to the available statements the criteria are not fulfilled for the classification as a PBT or vPvB.

12.6 Other adverse effects

Spilling product harms waters by high consumption of oxygen and general pollution impact.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

No dangerous waste according to the European waste catalogue (2008/98/EG). If recycling is not possible, wastes must be eliminated according to the provisions of the local authorities. Do not dispose by the sewage.

List of proposed waste codes/waste designations in accordance with EWC

080111* Waste paint and varnish containing organic solvents or other dangerous substances *Hazardous waste according to Directive 2008/98/EC (waste framework directive).



Appropriate disposal / Package

Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

SECTION 14 Transport information

14.1 UN number

Not applicable.

14.2 Proper shipping name

ADR/RID / IMDG / IATA

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

Labelling of environmentally dangerous substances

ADR/RID / IMDG / IATA Not applicable.

Marine Pollutant Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

SECTION 15 Regulatory information

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

Provisions of the EU

Denomination in Annex I of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

Not applicable.

Regulation (EU) No 528/2012 for the marketing of biocidal products

Not applicable.

Regulation (EC) No 648/2004 (Regulation concerning detergents)

Not applicable.



Directive 1999/13/EC for the limitation of emissions of volatile organic compounds Not applicable.

Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding Not applicable.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not applicable.

Directive 94/33/EC on the protection of young people at work Not applicable.

German regulations

Technical instructions on maintaining air purity

(TA Luft) Not applicable.

Water hazard class

WGK 1 (low hazardous to waters)

Storage class according to TRGS 510

LGK 12 (non-combustible liquids)

Other regulations, restrictions and prohibition ordinances

Not applicable.

15.2 Chemical safety assessment

This mixture was not subject to a safety assessment.

SECTION 16 Other information

The wording of the classification codes of section 3

Acute Tox. 2; H310	Acute toxicity (dermal)	Fatal in contact w	vith skin
Acute Tox. 2; H330	Acute toxicity (inhalative)	Fatal if inhaled.	
Acute Tox. 3; H301	Acute toxicity (oral)	Toxic if swallowed.	
Acute Tox. 3; H311	Acute toxicity (dermal)	Toxic in contact with skin	
Acute Tox. 3; H331	Acute toxicity (inhalative)	Toxic if inhaled.	
Acute Tox. 4; H302	Acute toxicity (oral)	Harmful if swallov	wed.
Acute Tox. 4; H332	Acute toxicity (inhalative)	Harmful if inhaled.	
Aquatic Acute 1; H400	Hazardous to the aquatic environment		Very toxic to aquatic life.
Aquatic Chronic 1; H410	Hazardous to the aquatic environment		Very toxic to aquatic life with long-lasting effects
Aquatic Chronic 2; H411	Hazardous to the aquatic environment		Toxic to aquatic life with long-lasting effects.
Eye Dam. 1; H318	Serious eye damage/ Eye irritation	Causes serious e	eye damage.
Eye Irrit. 2; H319	Serious eye damage/ Eye irritation	Causes serious e	eye irritation.
Flam. Liq. 2; H225	Flammable liquid	Highly flammable liquid and vapour	
Skin Corr. 1A; H314	Skin corrosion/ irritation	Causes severe sl	kin burns and eye damage.
Skin Corr. 1B; H314	Skin corrosion/ irritation	Causes severe sl	kin burns and eye damage.

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Skin Irrit. 2; H315 Skin corrosion/ Causes skin irritation.

irritation

Skin Sens. 1; H317 Skin sensitisation May cause an allergic skin reaction. STOT SE 3; H335 Specific target organ toxicity May cause respiratory irritation.

(single exposure)

The classification codes only apply to the pure substances and do not declare necessarily the classification of the mixture. The classification and the labelling of the mixture are specified in section 2.

Abbreviations

(I) Substances for which the local effect determines the limit value or substances that

sensitize the respiratory tract

(II) Resorptive substances

(6) Reaction with nitrosating agents can lead to the formation of the corresponding

carcinogenic N-nitrosoamines.

ADR European Agreement concerning the International Carriage of Dangerous Goods by

Road

AGW Occupational exposure limit value.

BCF Bioconcentration factor

BGW Permitted biological limit value for work place.

bw Body weight

CAS Chemical Abstracts Service

DFG German Research Council (Committee on Occupational Exposure Limits).

DNEL Derived no-effect level

EC50 Half maximal effective concentration

EC-No. Registration number of the "European Inventory of Existing Chemical Substances"

(EINECS)

ErC50 average inhibitory concentration of the growth rate

EWG European Economic Community

EU European Union.

H Risk of absorption through the skin.

IATA International Air Transport Association

IBC-Code International Code for the Construction and Equipment of Ships carrying Dangerous

Chemicals in Bulk

IMDG International Maritime Code for Dangerous Goods LC50 Lethal concentration for 50% of a test population

LD50 Lethal dose for 50% of a test population (mean lethal dose)

LGK Storage class.

MAK Maximum workplace concentration

MARPOL International Convention for the Prevention of Marine Pollution from Ships

NO(A)EC No observed (adverse) effect concentration

OECD Organisation for Economic Co-operation and Development

PBT Persistent, bioaccumulative and toxic.
PNEC predicted no effect concentration

QSAR Quantitative structure–activity relationship

REACH Regulation (EC) No. 1907/2006 of the European Parliament and of the Council

regarding the registration, evaluation, authorisation and restriction of chemicals



RID Convention concerning International Carriage by Rail

SCL Specific concentration limit

STEL EU workplace limit values for a reference period of 15 minutes

(Short-term exposure limit)

TRGS Technical regulation for dangerous substances.

TWA EU workplace limit values for a reference period of 8 hours

(Time-weighted-average)

UN United Nations

vPvB Very persistent and very bioaccumulative.

WGK Water hazard class.

Z A risk of foetal damage cannot be ruled out even if the AGW and BGW are observed

Additional information

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in chapter 1.

It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.

We exclude each liability for damages, that can appear in improper intercourse or contact with these chemicals.

This security data sheet replaces all previous editions. Validly from edition date.

Date of last revision / Version: 02.01.2020 V-2020-001