1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or mixture:

Product name	:	UNIFIN
REACH Registration No	:	Registration numbers of the individual components: see section 3.2, if applicable.

1.2 Use of the substance/mixture:

Identified relevant uses	:	Offset plate finisher solution
Uses advised against	:	Do not use for products which come into direct contact with food stuffs. Do not use for products which come into direct contact with the skin. Do not use for private purposes (household).

1.3 Company/undertaking identification

Agfa-Gevaert Ltd.
Vantage West
Great West Road
Brentford, Middlesex TW8 9AX
United Kingdom
Tel. : +44 (0)20 8 231 4616
Fax : +44 (0)20 8 231 4951
E-mail: electronic.sds@agfa.com

1.4 Emergency telephone

Emergency telephone number (Belgium) : +32 3 4443333 (24h/24h)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Regulation(EC) No 1272/2008 (CLP)	
• Hazard classes	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.
• Hazard classes	Chronic hazards to the aquatic environment
Hazard categories	Category 3
Hazard statements	H412
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.

Full text of each relevant H-phrase is listed in section 16.

2.2 Label elements:

Hazardous components which must be listed on the label :

• CAS-No.	:	119345-04-9	sodium salts of sulfonated 1,1'-oxybisbenzene tetrapropylene derivative
		2682-20-4	2-Methyl-2H-isothiazol-3-one
		2634-33-5	1,2-Benzisothiazol-3(2H)-one

55965-84-9		A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

Symbol(s)

GHS05

Signal word	:	DANGER	
Hazard statements	:	H318	Causes serious eye damage.
		H412	Harmful to aquatic life with long lasting effects. EUH208: May produce an allergic reaction.
Precautionary statements: prevention	:	P273	Avoid release to the environment.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statements: response	:	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
		P310	Immediately call a POISON CENTER/doctor/…

1,2-Benzisothiazol-3(2H)-one and 2-Methyl-2H-isothiazol-3-one: concentrations as mentioned in chapter 3 of this Safety Data Sheet are between 0.005% and less than 0.05%.
mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no.247- 500-7] and 2-methyl-2H-isothi azolin-3-one [EC no. 220-239-6] (3:1): concentration as mentioned in chapter 3 of this Safety Data Sheet are between 0.00015 and less than 0.0015%.

2.3 Other hazards:

This product does not meet the criteria concerning PBT or vPvB substances as described in Annex XIII of the REACH regulation (1907/2006 EC)

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture related information:

Aqueous offset plate finisher solution, mainly consisting of:

3.2 Hazard ingredients:

The hazard and labelling information in this section is that of the individual ingredients. The corresponding information relative to this product as supplied is given in section 2.1.

Hazardous components in the meaning of regulation(EC) No 1272/2008 (CLP)

- sodium salts of sulfonated 1,1'-oxybisbenzene tetrapropylene derivative — Concentration [%] : 3.0 - 5.0
  CAS-No. : 119345-04-9
  REACH Registration No : 01-2119492361-39-XXXX
- Citric acid — Concentration [%] : 1.0 - 5.0

CAS-No. : 77-92-9
EINECS-No. : 201-069-1
REACH Registration No : 01-2119457026-42-XXXX
Hazard classes : Serious eye irritation
Hazard categories : Category 2
Hazard statements : H319

- 2-Methyl-2H-isothiazol-3-one Concentration [%] : 0.0 - 0.1

CAS-No. : 2682-20-4
Index-No. : 613-167-00-5
EINECS-No. : 220-239-6
REACH Registration No : Transition time according to REACH regulation article 23 is still not expired.
Hazard classes : Acute toxicity Oral, Acute toxicity Dermal, Acute toxicity Inhalation, Skin corrosion, Serious eye damage, Acute hazards to the aquatic environment, Skin sensitizer
Hazard categories : Category 3, Category 3, Category 2, Category 1B, Category 1, Category 1, Category 1A
Hazard statements : H301, H311, H330, H314, H318, H400, H317

- 1,2-Benzisothiazol-3(2H)-one Concentration [%] : 0.0 - 0.1

CAS-No. : 2634-33-5
Index-No. : 613-088-00-6
EINECS-No. : 220-120-9
REACH Registration No : Transition time according to REACH regulation article 23 is still not expired.
Hazard classes : Acute toxicity Oral, Skin irritation, Serious eye damage, Skin sensitizer, Acute hazards to the aquatic environment
Hazard categories : Category 4, Category 2, Category 1, Category 1, Category 1
Hazard statements : H302, H315, H318, H317, H400

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1) Concentration [%] : 0.0 - 0.1

CAS-No. : 55965-84-9
Index-No. : 613-167-00-5
REACH Registration No : Transition time according to REACH regulation article 23 is still not expired.
Hazard classes : Acute toxicity Inhalation, Acute toxicity Dermal, Acute toxicity Oral, Skin corrosion, Skin sensitizer, Acute hazards to the aquatic environment, Chronic hazards to the aquatic environment
Hazard categories : Category 3, Category 3, Category 3, Category 1B, Category 1, Category 1, Category 1
Hazard statements : H331, H311, H301, H314, H317, H400, H410

Components with a community workplace exposure limit

- 1,2-Benzisothiazol-3(2H)-one
- 5-Chloro-2-methyl-2H-isothiazol-3-one
- 2-Methyl-2H-isothiazol-3-one

3.3 Remark:

Full text of each relevant H-phrase is listed in section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures:

Eye contact	:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin contact	:	Wash immediately with plenty of water and soap. If symptoms persist, seek medical advice.
Ingestion	:	Rinse mouth with plenty of water. Seek medical advice.
Inhalation	:	Take person to fresh air. If necessary, seek medical advice.

4.2 Most important symptoms and effects:

Symptoms	:	In normal conditions of use, no adverse effects are expected.

4.3 Indication of immediate medical attention and special treatment needed:

General advice	:	Call a physician immediately.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	Carbon dioxide (CO2)., Alcohol-resistant foam., Dry extinguishing powder., Powder form.

5.2 Special hazards arising from the substance or mixture:

Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Further information	:	Product is not combustible.

5.3 Advice for fire-fighters:

Special protective equipment for fire-fighters	:	Regular fire intervention clothes.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Personal precautions	:	See section : Exposure controls / personel protection. Cleanup personnel must use appropriate personal protective equipment.
Additional advice	:	Wash away residues with plenty of water. Observe normal precautions when handling chemicals.

6.2 Environmental precautions:

Environmental precautions	:	For waste disposal see section 13. The product should not be allowed to enter drains, water courses or the soil.

6.3 Methods and material for containment and cleaning up:

Methods for cleaning up	:	Dike the spill if necessary. Soak up with absorbent material. Collect large spills into a properly labelled and sealable container. Prevent release into the drain, soil or surface water.

6.4 Reference to other sections:

For waste disposal see section 13.
For personal protection see section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling	:	Prevent product from diffusing.
Hygiene measures	:	Observe normal precautions when handling chemicals.Keep away from foodstuffs, drinks and tobacco.Employees should wash their hands and face before eating, drinking, or using tobacco products.
Advice on protection against fire and explosion	:	No special protective measures against fire and explosion required.

7.2 Conditions for safe storage:

Requirements for storage areas and containers	:	Keep container tightly closed. Protect from direct sunlight.
Advice on common storage	:	Store away from strong alkalis.

7.3 Specific end use:

This substance is used only by trained professionals under restricted conditions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

8.1.1 Components with occupational exposure limits rsp. biological occupational exposure limits requiring monitoring:

8.1.1.1 Occupational exposure limits:

Air limit values

We are not aware of any national exposure limit.

Biological limit values

We are not aware of any national exposure limit.

8.1.1.2 Additional exposure limits under the conditions of use:

No other exposure limits applicable.

8.1.1.3 DNEL/DMEL and PNEC-values:

DNEL

No DNEL/DMEL value determined. No Chemical Safety Report performed.

PNEC

No PNEC value determined. No Chemical Safety Report performed.

8.2 Exposure controls:

Occupational exposure controls:

➢ **Instruction measures to prevent exposure:**

Employees should wash their hands and face before eating, drinking, or using tobacco products. Keep away from foodstuffs, drinks and tobacco.

➢ **Technical measures to prevent exposure:**

Ensure adequate ventilation.

➢ **Personal measures to prevent exposure:**

Respiratory protection	:	not required under normal use
Hand protection	:	Use chemical resistant gloves. In case of prolonged immersion or frequently repeated contact use gloves made of the materials: butylrubber (thickness >= 0.70 mm, breakthrough time > 480 min).(EN 374). The use of protective gloves should conform to the specifications of EC directive 89/686/EC and the resultant standard EN374. Additional advice: The data are based on own tests, literature data and information of glove manufacturers or derived from similar substances. Because several factors may influence these properties (eg temperature), one should take into account the fact that the life of a chemical gloves in practice may be considerably shorter than indicated by the permeation test. The high diversity of types of use are prescribed by the manufacturer.
Eye protection	:	Safety glasses.
Body Protection	:	Safety clothes : long sleeved clothing EN13688
Personal protective equipment	:	Observe normal precautions when handling chemicals.

Environmental exposure controls:

Effluent regulations/discharge/treatment/contents may vary from one area to another. Please consult the local regulations regarding the disposal of this material. Do not release into drain. Collect for removal by a licensed waste contractor.

EU Directive	Status
European Directive 2000/60/EC (water)	not on list
European Directive 1996/62/EC (air)	not on list

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:

State of matter	:	Liquid
Form	:	Liquid.
Color	:	Light yellow
Odor	:	Nearly odourless

9.1.2 Important health, safety and environmental information:

pH (25 °C)	:	3.6
Melting point/range	:	< 0 °C
Boiling point/range	:	> 100 °C

Vapour pressure (20 °C)	:	23.00 hPa
Relative density (20 °C)	:	1.073
Solubility/qualitative	:	Miscible with water at all ratios.
Water solubility	:	completely soluble
Partition coefficient (n-octanol/water)	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available
Evaporation rate	:	Almost no evaporation (20°C).
Flammability (solid, gas)	:	not auto-flammable

9.2 Other information:

VOC content	:	0 %

10. STABILITY AND REACTIVITY

10.1 Reactivity:

Reactivity	:	Reactivity is not to be expected under normal conditions of temperature and pressure.

10.2 Chemical stability:

Stability	:	The product is stable under normal conditions of storage and use.

10.3 Possibility of hazardous reactions:

Hazardous reactions	:	The product is stable under normal conditions of storage and use.

10.4 Conditions to avoid:

Conditions to avoid	:	Avoid contact with strong alkalis.

10.5 Materials to avoid:

Materials to avoid	:	Store away from strong alkalis.

10.6 Hazardous decomposition products:

Hazardous decomposition products	:	None

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicity data specific for individual ingredients in their pure state:

Toxicokinetics, metabolism and distribution:

- Citric acid

No data available

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

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- Citric acid

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	3,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rabbit	5,500 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	No data available			

- 2-Methyl-2H-isothiazol-3-one

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,000 to 2,000 mg/kg	Literature.
Acute dermal toxicity	LD50	rat	> 2,000 mg/kg	Literature.
Acute inhalation toxicity	No data available			

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

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,020 mg/kg	Literature.
Acute dermal toxicity	No data available			
Acute inhalation toxicity	No data available			

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 2,000 mg/kg	Literature.
Acute dermal toxicity	LD50	rat	> 5,000 mg/kg	Literature.
Acute inhalation toxicity	No data available			

➢ **Specific target organ toxicity (STOT):**

Specific effects	Affected organs
No data available	

➢ **Irritant and corrosive effects:**

- Citric acid

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin		rabbit	No skin irritation	OECD Test Guideline 404

Irritation to eyes	Based on available data, the classification criteria are not met.		Irritating to eyes.	Literature.

- 2-Methyl-2H-isothiazol-3-one

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin		rabbit	No skin irritation	OECD Test Guideline 404
Irritation to eyes	Based on available data, the classification criteria are not met.	rabbit	Risk of serious damage to eyes.	OECD Test Guideline 405

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

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin			Irritating to skin.	Literature.
Irritation to eyes			Risk of serious damage to eyes.	Literature.

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin			Causes burns.	
Irritation to eyes			Causes burns.	

➢ **Irritation to the respiratory tract:**

No data available

➢ **Sensitisation:**

- Citric acid

Species	Evaluation	Method
	No data available	

- 2-Methyl-2H-isothiazol-3-one

Species	Evaluation	Method
	May cause sensitisation by skin contact.	Literature.

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

Species	Evaluation	Method
	sensitising effects	Literature.

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

Species	Evaluation	Method
	May cause sensitisation by skin contact.	

➢ **Aspiration hazard:**

No data available

Sub-acute, sub-chronic and chronic toxicity

➢ **Repeated dose toxicity:**

No data available

➢ **Specific target organ toxicity (STOT):**

No information available.

➢ **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):**

- **Carcinogenicity**

No data available

- **Mutagenicity**

No data available

- **Genetic toxicity in vitro**

No data available

- **Genetic toxicity in vivo**

No data available

- **Teratogenicity**

No data available

- **Toxicity to reproduction**

No data available

➢ **Summarised evaluation of the CMR properties:**

Carcinogenicity	:	No data available
Mutagenicity	:	No data available
Teratogenicity	:	No data available
Toxicity to reproduction	:	No data available

Experiences made in practice:

- Citric acid

Causes serious eye irritation.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- Citric acid

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Leuciscus idus (golden orfe)	760 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to daphnia	EC50	72 h	Daphnia magna (water flea)	120 mg/l

	Method: Literature. Based on available data, the classification criteria are not met.			
Toxicity to algae	EC5	7 d	Scenedesmus quadricauda (algae)	640 mg/l
	Method: Literature. Based on available data, the classification criteria are not met.			
Toxicity to bacteria	EC5	16 h	Pseudomonas putida (bacteria)	> 10,000 mg/l
	Method: Literature. Based on available data, the classification criteria are not met.			

- 2-Methyl-2H-isothiazol-3-one

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC 50	96 h	Oncorhynchus mykiss (rainbow trout)	60 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h	Daphnia magna	16 mg/l
	Method: Literature.			
Toxicity to algae	EC50	96 h	Algae (Pseudokirchneriella subcapitata)	1.57 mg/l
	Method: Literature.			
Toxicity to bacteria	No data available			

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

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Lepomis macrochirus (bluegill sunfish)	5.9 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h	Daphnia magna (water flea)	4.3 mg/l
	Method: Literature.			
Toxicity to algae	EC50	72 h	Scenedesmus quadricauda (algae)	0.2 mg/l
	Method: Literature.			
Toxicity to bacteria	No data available			

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Oncorhynchus mykiss (rainbow trout)	0.19 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h	Daphnia magna	0.16 mg/l
	Method: Literature.			
Toxicity to algae	No data available			
Toxicity to bacteria	EC50	16 h	Pseudomonas putida (bacteria)	5.7 mg/l
	Method: Literature.			

12.2 Persistence and degradability:

Physico-chemical removability

Neutralization is normally necessary before waste water is discharged into water treatment plants.

Chemical Oxygen Demand (COD)

Value	Method
145,000 mg/l	

Adsorbed organic bound halogens (AOX)

- sodium salts of sulfonated 1,1'-oxybisbenzene tetrapropylene derivative
- Citric acid

Product does not contain any organic halogens.

- 2-Methyl-2H-isothiazol-3-one

Product does not contain any organic halogens.

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

Product does not contain any organic halogens.

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

The product contains organic halogens.

Biodegradation

- sodium salts of sulfonated 1,1'-oxybisbenzene tetrapropylene derivative
- Citric acid

Value	Exposure time	Method	Evaluation
98 %	2 d	Literature.	Readily biodegradable.
	According to the results of tests of biodegradability this product is considered as being readily biodegradable.		

- 2-Methyl-2H-isothiazol-3-one

According to the results of tests of biodegradability this product is considered as being readily biodegradable.

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

No data available

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

No data available

Biochemical Oxygen Demand (BOD)

Concentration	Incubation time	Value	Method
		19,500 mg/l	

12.3 Bioaccumulative potential:

Partition coefficient (n-octanol/water)

No data available

Bioconcentration factor (BCF)

- sodium salts of sulfonated 1,1'-oxybisbenzene tetrapropylene derivative
- Citric acid

Accumulation in aquatic organisms is unlikely.

- 2-Methyl-2H-isothiazol-3-one

Accumulation in aquatic organisms is unlikely.

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

Accumulation in aquatic organisms is unlikely.

- A mixture of : 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothi azolin-3-one [EC and 2-methyl-4-isothiazolin-3-one (3:1)

Bioaccumulation is unlikely.

12.4 Mobility in soil:

Soluble in water.

Henry's constant

- Citric acid

Value	Temperature	Method
		No information available.

- 2-Methyl-2H-isothiazol-3-one

Value	Temperature	Method
		No information available.

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

Value	Temperature	Method
		No information available.

Transport between environmental compartments

Transport between environmental compartments can be expected.

12.5 Results of PBT and vPvB assessment:

This product does not meet the criteria concerning PBT or vPvB substances as described in Annex XIII of the REACH regulation (1907/2006 EC)

12.6 Other adverse effects:

This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Waste disposal methods

Do not release into drain. Collect for removal by a licensed waste contractor. Effluent regulations/discharge/treatment/contents may vary from one area to another. Please consult the local regulations regarding the disposal of this material.

May be discharged to drain if local regulations permit.

Empty containers.

As the packaging can be contaminated with product residus, please observe the warnings of the label even when the container is empty.Do not reuse empty container without proper cleaning.Label precautions also apply to this container when empty.

For waste resulting from the expired product, it is recommended to use European Waste Code : 08 03 12 (waste ink containing dangerous substances).

14. TRANSPORT INFORMATION

Not regulated according to ADR.
Not regulated according to ADNR.
Not regulated according to RID.
Not regulated according to IMO/IMDG.
Not regulated according to ICAO/IATA aircraft only.
Not regulated according to ICAO/IATA passenger and cargo aircraft.

15. REGULATORY INFORMATION

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

Authorisation and/or restriction on use

Authorisation	:	No
Restriction on use	:	Not listed on EU. REACH, Annex XVII, Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixtures & articles (Reg 1907/2006/EC, as amended

Other EU regulations

Does not fall under specific EU-Regulations.

15.2 Chemical Safety Assessment

No Chemical Safety Report needed according REACH.

16. OTHER INFORMATION

Text of H-phrases referred to under headings 2 and 3:

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further information

Section(s) changed compared to the previous issue:2, 3

This Safety Data Sheet is compiled in accordance with European Directives and corresponding national legislation.

The information disclosed in this Safety Data Sheet is believed to be correct to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other material or in any process, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management.

Sources of key data used to compile the datasheet

Handbuch der gefährlichen Güter, Hommel.
The Dictionary of Substances and their Effects, Royal Society of Chemistry.
Gefährliche Chemische Reaktionen, L.Roth und U.Weller.
Handbuch der Umweltgifte, Dauderer.
Chemiekaarten, latest version.
Safety Data Sheet from the supplier.
IUCLID Test data.This safety data sheet contains an ES (if applicable) in an integrated form. Contents of the exposure scenario have been included (if applicable) into sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet. The downstream user has to check whether his uses are covered by the integrated ES information in this safety data sheet.

Abbreviations

ADR:	Accord européen relatif au transport international des marchandises Dangereuses par Route
ADNR:	Accord européen relatif au transport international des marchandises Dangereuses par la Rhin
AGW:	Arbeitsplatzgrenswerte (GE)
ATEmix:	Acute toxicity estimate of the mixture
CLP:	Classification, Labelling and Packaging of substances and mixtures
CMR:	Carcinoge
DNEL:	Derived No Effect Level
EC0:	Effective Concentration 0%
EC5:	Effective Concentration 5%
EC10:	Effective Concentration 10%

EC50:	Median Effective Concentration
EC100:	Effective Concentration 100%
EH40 WEL:	Workplace Exposure Limit (UK)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IC50:	inhibitory concentration 50%
IMDG:	International Maritime Dangerous Goods
IMO:	International Maritime Organization
IUCLID:	International Uniform ChemicaL Information Database
LC50:	Lethal Concentration 50%
LC100:	Lethal Concentration 100%
LOAEL:	Lowest Observed Adverse Effect Level
LDL0	Lethal Dose (minimum found to be lethal)
LD50:	Lethal Dose 50%
MAC:	Maximaal Aanvaardbare Concentratie (NL)
MAK:	Maximale Arbeitsplatz-Konzentration
NOAEL:	No Observed Adverse Effect Level
NOEL:	No Observed Effect Level
NOEC:	No Observed Effect Concentration
OEL:	Occupatianal Exposure Limit
PBT:	Persistent, Bioaccumulative and Toxic substance
PNEC:	Predicted No Effect Concentration
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID:	Regulations concerning the International Transport of Dangerous Goods by Rail
STEL:	Short Term Exposure Limit
TLV:	Treshold Limit Value
TRGS900:	Arbeitsplatzgrenswerte (GE)
TWA:	Time Weighted Average
VOC:	Volatile Organic Compound
vPvB:	very Persistent and very Bioaccumulative substance