

Safety Data Sheet

BETA 2000 MS HARDENER



Safety Data Sheet dated 20/9/2017, version 3

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

1.1. Product identifier

Mixture identification:

Trade name: BETA 2000 MS HARDENER FAST

Trade code: SDS CAT MS (BETAMSFH25)

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

Recommended use:

Car refinish

Uses advised against:

All uses not included in the recommended uses

1.3. Details of the supplier of the safety data sheet

BETA COLOR SRL

Via Monte Sabotino, 71

20099 Sesto San Giovanni (MI) – Italy

Tel: +39 02 2426193

Fax: +39 02 22476324

Competent person responsible for the safety data sheet:

betacolor.milano@gmail.com

1.4. Details of importer:

Sydney Automotive Paint and Equipment

Unit A3, 366 Edgar Street

Condell Park

NSW 2200

Australia

Tel: +61 2 9772 9000

Email: reception@sape.com.au

1.5. Emergency Information:

Emergency telephone: AU Poison Information Centre 13 11 26

General medical information: +61 2 9772 9000 (Mon to Fri, 08:00-16:00 AEST)

Transport information: +61 2 9772 9000 (Mon to Fri, 08:00-16:00 AEST)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture EC regulation criteria 1272/2008 (CLP)

⚠ Danger, Flam. Liq. 2, Highly flammable liquid and vapour.

⚠ Warning, Acute Tox. 4, Harmful if inhaled.

⚠ Warning, Skin Irrit. 2, Causes skin irritation.

⚠ Warning, Eye Irrit. 2, Causes serious eye irritation.

⚠ Warning, Skin Sens. 1, May cause an allergic skin reaction.

⚠ Warning, STOT SE 3, May cause respiratory irritation.

⚠ Warning, STOT SE 3, May cause drowsiness or dizziness.

Adverse physicochemical, human health and environmental effects:

No other hazards

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2.2. Label elements

Symbols:



Danger

Hazard statements:

- H225 Highly flammable liquid and vapour.
- H332 Harmful if inhaled.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.

Precautionary statements:

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P312 Call a POISON CENTER/ doctor/if you feel unwell.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P370+P378 In case of fire: Use foam or dry powder to extinguish.

Special Provisions:

None

Contents

- oligomers of hexamethylene diisocyanate
- n-butyl acetate
- ethyl acetate
- xylene, reactive mixture of ethylbenzene, m-xylene and p-xylene

Special provisions according to Annex XVII of REACH and subsequent amendments:

Restricted to professional users.

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other hazards:

No other hazards

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SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
>= 30% - < 40%	oligomers of hexamethylene diisocyanate	CAS: 28182-81-2 EC: 931-274-8 REACH No.: 01-2119485796-17-0002	◊ 3.1/4/Inhal Acute Tox. 4 H332 3.8/3 STOT SE 3 H335 3.4.2/1-1A-1B Skin Sens. 1,1A, 1B H317
>= 20% - < 25%	n-butyl acetate	Index number: 607-025-00-1 CAS: 123-86-4 EC: 204-658-1 REACH No.: 01-2119485493-29XX	◊ 2.6/3 Flam. Liq. 3 H226 ◊ 3.8/3 STOT SE 3 H336 EUH066
>= 12.5% - < 15%	xylene	Index number: 601-022-00-9 CAS: 1330-20-7 EC: 215-535-7 REACH No.: 01-2119488216-32XX	◊ 2.6/3 Flam. Liq. 3 H226 ◊ 3.1/4/Inhal Acute Tox. 4 H332 ◊ 3.1/4/Dermal Acute Tox. 4 H312 ◊ 3.3/2 Eye Irrit. 2 H319 ◊ 3.8/3 STOT SE 3 H335 ◊ 3.2/2 Skin Irrit. 2 H315 3.9/2 STOT RE 2 H373 3.10/1 Asp. Tox. 1 H304
>= 10% - < 12.5%	2-methoxy-1-methylethyl acetate	Index number: 607-195-00-7 CAS: 108-65-6 EC: 203-603-9 REACH No.: 01-2119475791-29XX	◊ 2.6/3 Flam. Liq. 3 H226

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>= 10% - < 12.5%	ethyl acetate	Index number: CAS: EC: REACH No.:	607-022-00-5 141-78-6 205-500-4 01-2119475103-46XX	<ul style="list-style-type: none"> ⚠ 2.6/2 Flam. Liq. 2 H225 ⚠ 3.3/2 Eye Irrit. 2 H319 ⚠ 3.8/3 STOT SE 3 H336 EUH066
>= 1% - < 3%	Solvent naphtha (petroleum), light aromatic	Index number: CAS: EC: REACH No.:	649-356-00-4 64742-95-6 265-199-0 01-2119455851-35XX	<ul style="list-style-type: none"> ⚠ 2.6/3 Flam. Liq. 3 H226 ⚠ 3.1/4/Inhal Acute Tox. 4 H332 ⚠ 3.10/1 Asp. Tox. 1 H304 ⚠ 3.8/3 STOT SE 3 H335 ⚠ 3.8/3 STOT SE 3 H336 ⚠ 4.1/C2 Aquatic Chronic 2 H411
881 ppm	hexamethylene diisocyanate	Index number: CAS: EC:	615-011-00-1 822-06-0 212-485-8	<ul style="list-style-type: none"> ⚠ 3.1/4/Inhal Acute Tox. 4 H332 ⚠ 3.1/4/Oral Acute Tox. 4 H302 ⚠ 3.1/2/Inhal Acute Tox. 2 H330 ⚠ 3.3/2 Eye Irrit. 2 H319 ⚠ 3.8/3 STOT SE 3 H335 ⚠ 3.2/2 Skin Irrit. 2 H315 ⚠ 3.4.1/1-1A-1B Resp. Sens. 1,1A, 1B H334 ⚠ 3.4.2/1-1A-1B Skin Sens. 1,1A, 1B H317

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of ingestion:

Do NOT induce vomiting.

In case of inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

4.2. Most important symptoms and effects, both acute and delayed

None

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).



Treatment:
None

SECTION 5: Firefighting measures

- 5.1. Extinguishing media
Suitable extinguishing media: foam or dry powder.
Extinguishing media which must not be used for safety reasons: None in particular.
- 5.2. Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
- 5.3. Advice for firefighters
Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

HAZCHEM: 3Y

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove all sources of ignition.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Use appropriate respiratory protection.
See protective measures under point 7 and 8.
- 6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up
Wash with plenty of water.
- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists. Use localized ventilation system.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas. Do not eat or drink while working.
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities
Store at below 20 °C.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Cool and adequately ventilated.
- 7.3. Specific end use(s)



None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

oligomers of hexamethylene diisocyanate - CAS: 28182-81-2

- OEL Type: 06 - STE: 1 mg/m³

n-butyl acetate - CAS: 123-86-4

- OEL Type: ACGIH - LTE(8h): 713 mg/m³, 150 ppm - STE: 959 mg/m³, 200 ppm -

Notes: ACGIH 2011

- OEL Type: 06 - LTE: 710 mg/m³, 150 ppm - STE: 940 mg/m³, 200 ppm - Notes: EU

xylene - CAS: 1330-20-7

- OEL Type: OEL - LTE(8h): 442 mg/m³, 100 ppm - STE(): 884 mg/m³, 200ppm -

Notes: UE - SKIN

- OEL Type: ACGIH - LTE: 436 mg/m³, 100 ppm - STE: 651 mg/m³, 150 ppm - Notes:

A4, IBE

OEL 8h - 221 mg/m³ - 50 ppm

OEL short - 442 mg/m³ - 100 ppm

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

- OEL Type: EU - LTE(8h): 275 mg/m³, 50 ppm - STE: 550 mg/m³, 100 ppm - Notes:

SKIN

- OEL Type: 05 - LTE: 275 mg/m³

- OEL Type: OSHA - LTE(8h): 275 mg/m³, 50 ppm

ethyl acetate - CAS: 141-78-6

- OEL Type: 06 - LTE(8h): 1441 mg/m³, 400 ppm

TLV TWA - 400 ppm - 1441,31 mg/m³

Solvent naphtha (petroleum), light aromatic - CAS: 64742-95-6

- OEL Type: 05 - LTE: 200 mg/m³

Hexamethylene diisocyanate - CAS: 822-06-0

- OEL Type: 05 - LTE: 0.075 mg/m³, 0.01 ppm - STE: 0.15 mg/m³, 0.02 ppm - Notes: EU

TLV TWA - 0,01 ppm - 0,03 mg/m³

DNEL Exposure Limit Values

oligomers of hexamethylene diisocyanate - CAS: 28182-81-2

Worker Industry: 1 03 - Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Industry: 0.5 03 - Exposure: Human Inhalation - Frequency: Long Term, local effects

n-butyl acetate - CAS: 123-86-4

Worker Industry: 480 03 - Worker Professional: 480 03 - Consumer: 102.34 03 -

Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Industry: 960 03 - Worker Professional: 960 03 - Consumer: 859.7 03 - Exposure:

Human Inhalation - Frequency: Short Term, systemic effects

Worker Industry: 960 03 - Worker Professional: 960 03 - Consumer: 859.7 03 - Exposure:

Human Inhalation - Frequency: Short Term, local effects

Worker Industry: 480 03 - Worker Professional: 480 03 - Consumer: 102.34 03 -

Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 3.4 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

Worker Industry: 48 03 - Consumer: 12 03 - Exposure: Human Inhalation - Frequency:

Long Term, systemic effects

Worker Industry: 7 mg/kg - Consumer: 3.4 mg/kg - Exposure: Human Dermal -

Frequency: Long Term, systemic effects

xylene - CAS: 1330-20-7

Worker Industry: 289 03 - Worker Professional: 289 03 - Consumer: 174 03 - Exposure:

Human Inhalation - Frequency: Short Term, local effects

Worker Industry: 180 mg/kg - Worker Professional: 180 mg/kg - Consumer: 108 mg/kg -

Exposure: Human Dermal - Frequency: Long Term, systemic effects - Notes: bw/day

Worker Industry: 77 03 - Worker Professional: 77 03 - Consumer: 14.8 03 - Exposure:

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Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 1.6 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
- Notes: BW/DAY
Worker Industry: 289 03 - Worker Professional: 289 03 - Consumer: 174 03 - Exposure:
Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 174 03 - Exposure: Human Dermal - Frequency: Short Term, local
effects
Worker Industry: 77 03 - Exposure: Human Inhalation - Frequency: Long Term, local
effects
Worker Industry: 221 03 - Exposure: Human Inhalation - Frequency: Long Term
(repeated)
Worker Industry: 221 03 - Consumer: 65.3 03 - Exposure: Human Inhalation - Frequency:
Long Term, systemic effects
Worker Industry: 3182 mg/kg - Consumer: 1872 mg/kg - Exposure: Human Dermal -
Frequency: Long Term, systemic effects
Consumer: 12.5 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic
effects - Notes: bw/day

2-methoxy-1-methylethyl acetate - CAS: 108-65-6
Worker Industry: 153.5 mg/kg - Worker Professional: 153.5 mg/kg - Consumer: 54.8
mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects - Notes:
BW/DAY
Worker Industry: 275 03 - Worker Professional: 275 03 - Consumer: 33 03 - Exposure:
Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 1.67 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic
effects - Notes: BW/DAY

ethyl acetate - CAS: 141-78-6
Consumer: 4.5 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
- Notes: MG/KG BW
Worker Industry: 1468 03 - Worker Professional: 1468 03 - Consumer: 734 03 -
Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 1468 03 - Worker Professional: 1468 03 - Consumer: 734 03 -
Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 734 03 - Worker Professional: 734 03 - Consumer: 367 03 - Exposure:
Human Inhalation - Frequency: Long Term, local effects
Worker Industry: 734 03 - Worker Professional: 734 03 - Consumer: 367 03 - Exposure:
Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 63 mg/kg - Worker Professional: 63 mg/kg - Consumer: 37 mg/kg -
Exposure: Human Dermal - Frequency: Long Term, systemic effects - Notes: MG/KG BW

Solvent naphtha (petroleum), light aromatic - CAS: 64742-95-6
Consumer: 179 03 - Exposure: Human Inhalation - Frequency: Long Term, systemic
effects
Worker Industry: 25 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic
effects - Notes: unità di misura mg/kg bw/d
Worker Professional: 261.88 ppm - Exposure: Human Inhalation - Frequency: Long Term,
systemic effects
Worker Industry: 150 03 - Exposure: Human Inhalation - Frequency: Long Term, systemic
effects

Hexamethylene diisocyanate - CAS: 822-06-0
Worker Industry: 0.07 03 - Exposure: Human Inhalation - Frequency: Short Term, local
effects
Worker Industry: 0.07 03 - Exposure: Human Inhalation - Frequency: Short Term,
systemic effects
Worker Industry: 0.035 03 - Exposure: Human Inhalation - Frequency: Long Term, local
effects
Worker Industry: 0.035 03 - Exposure: Human Inhalation - Frequency: Long Term,
systemic effects

PNEC Exposure Limit Values

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- oligomers of hexamethylene diisocyanate - CAS: 28182-81-2
Target: 12 - Value: 38.28 mg/l - Notes: OECD 209
Target: Fresh Water - Value: 0.127 mg/l - Notes: Daphnia magna
Target: 10 - Value: 1.270 mg/l - Notes: Daphnia magna
Target: Marine water - Value: 0.0127 mg/l - Notes: Daphnia magna
Target: Freshwater sediments - Value: 266.7 03 - Notes: Equilibrium partitioning
Target: 09 - Value: 53.2 03 - Notes: Equilibrium partitioning
Target: 08 - Value: 1.27 mg/l
Target: Marine water sediments - Value: 26.67 03
- n-butyl acetate - CAS: 123-86-4
Target: 11 - Value: 35.6 mg/l - Notes: STP
Target: Fresh Water - Value: 0.18 mg/l
Target: Marine water - Value: 0.018 mg/l
Target: 10 - Value: 0.36 mg/l
Target: Freshwater sediments - Value: 0.981 mg/kg
Target: Marine water sediments - Value: 0.09 mg/kg
Target: 09 - Value: 0.0903 mg/kg
- xylene - CAS: 1330-20-7
Target: Microorganisms in sewage treatments - Value: 6.58 mg/l - Notes: STP
Target: Marine water - Value: 0.327 mg/l
Target: 10 - Value: 0.327 mg/l
Target: Freshwater sediments - Value: 12.46 mg/kg
Target: Marine water sediments - Value: 12.46 mg/kg
Target: 09 - Value: 2.31 mg/kg
Target: Fresh Water - Value: 0.327 mg/l
Target: Soil (agricultural) - Value: 2.31 mg/kg
Target: Microorganisms in sewage treatments - Value: 6.58 mg/l
- 2-methoxy-1-methylethyl acetate - CAS: 108-65-6
Target: Fresh Water - Value: 0.635 mg/l
Target: Marine water - Value: 0.0635 mg/l
Target: 08 - Value: 6.35 mg/l
Target: 10 - Value: 6.35 mg/l
Target: Microorganisms in sewage treatments - Value: 100 mg/l
Target: Freshwater sediments - Value: 3.29 mg/kg
Target: Marine water sediments - Value: 0.329 mg/kg
Target: Soil (agricultural) - Value: 0.29 mg/kg
- ethyl acetate - CAS: 141-78-6
Target: Soil (agricultural) - Value: 0.24 mg/kg
Target: Fresh Water - Value: 0.26 mg/l
Target: Marine water - Value: 0.026 mg/l
Target: Freshwater sediments - Value: 1.25 mg/kg
Target: Marine water sediments - Value: 0.125 mg/kg
Target: Microorganisms in sewage treatments - Value: 650 mg/l
- hexamethylene diisocyanate - CAS: 822-06-0
Target: 12 - Value: 8.42 mg/l - Notes: OECD 209
Target: Fresh Water - Value: 0.0774 mg/l - Notes: Scenedesmus subspicatus
Target: 10 - Value: 0.774 mg/l - Notes: Scenedesmus subspicatus
Target: Marine water - Value: 0.00774 mg/l - Notes: Scenedesmus subspicatus
Target: Freshwater sediments - Value: 13.34 mg/kg - Notes: Equilibrium partitioning
Target: Marine water sediments - Value: 1.33 mg/kg - Notes: Equilibrium partitioning
Target: 09 - Value: 2.6 mg/kg - Notes: Equilibrium partitioning

8.2. Exposure controls

Eye protection:

The use of hermetic protective glasses (ref. EN 166) is recommended

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

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Use protective gloves cat. III (ref. EN 374)
 Respiratory protection:
 Use respiratory protection where ventilation is insufficient or exposure is prolonged.
 Use adequate protective respiratory equipment.
 Thermal Hazards:
 None
 Environmental exposure controls:
 None
 Appropriate engineering controls:
 None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes
Appearance and colour:	colorless liquid	--	--
Odour:	of solvent	--	--
Odour threshold:	N.A.	--	--
pH:	N.A.	--	--
Melting point / freezing point:	N.A.	--	--
Initial boiling point and boiling range:	N.A.	--	--
Flash point:	23°C	--	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	N.A.	--	--
Vapour pressure:	N.A.	--	--
Vapour density:	N.A.	--	--
Relative density:	N.A.	--	--
Solubility in water:	N.A.	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient (n- octanol/water):	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	N.A.	--	--

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Explosive properties:	N.A.	--	--
Oxidizing properties:	N.A.	--	--

9.2. Other information

Properties	Value	Method:	Notes
Miscibility:	N.A.	--	--
Fat Solubility:	N.A.	--	--
Conductivity:	N.A.	--	--

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the mixture:

N.A.

Toxicological information of the main substances found in the mixture:

oligomers of hexamethylene diisocyanate - CAS: 28182-81-2

a) acute toxicity:

Test: LD0 - Route: Oral - Species: Rat > 2500 mg/kg - Notes: OECD 423 (Female)

Test: LD0 - Route: Skin - Species: Rabbit > 2000 mg/kg - Notes: OECD 402

Test: LD0 - Route: Skin - Species: Rat > 2000 mg/kg - Notes: OECD 402

Test: LC50 - Route: Inhalation - Species: Rat 0.390 mg/l - Duration: 4h - Notes: OECD 403 (Female)

Test: NOAEC - Route: Inhalation - Species: Rat 3 mg/m³ - Duration: 6H - Notes: OECD TG 403 - TRGS

Test: NOEC - Route: Inhalation - Species: Rat 3.3 mg/m³ - Notes: OECD 413

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg

Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg - Notes: Guide Lines 402 Test OECD

Test: LC50 - Route: Inhalation - Species: Rat 0.554 mg/l - Duration: 4h

Test: LD50 - Route: Oral - Species: Rat > 2500 mg/kg

Test: LD50 - Route: Skin - Species: 18206 > 2000 mg/kg

b) skin corrosion/irritation:

Test: Skin Irritant - Route: Skin - Species: 18203 Positive - Notes: OECD Guide Lines 406

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- c) serious eye damage/irritation:
Test: Eye Irritant - Route: Skin - Species: Rabbit Negative
- e) germ cell mutagenicity:
Test: ames - Species: Salmonella Typhimurium Negative
- h) STOT-single exposure:
Test: Respiratory Tract Irritant Positive
- n-butyl acetate - CAS: 123-86-4
- a) acute toxicity:
Test: LC50 - Route: Inhalation Vapour - Species: Rat > 23.4 mg/l - Duration: 4h - Notes: OCSE 403
Test: LD50 - Route: Oral - Species: Rat > 10000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 14000 mg/kg
Test: LD50 - Route: Oral - Species: Rat > 6400 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 23.4 mg/l - Duration: 4h
Test: Skin Irritant Negative
Test: Respiratory Tract Irritant Positive
Test: LC50 - Route: Inhalation - Species: Rat > 2000 ppm - Duration: 4h
Test: Eye Irritant - Route: Inhalation Positive 3300 ppm
- b) skin corrosion/irritation:
Test: Skin Corrosive Negative - Source: OECD 404
- e) germ cell mutagenicity:
Test: Mutagenesis Negative - Notes: TEST DI AMES
- f) carcinogenicity:
Test: Carcinogenicity Negative - Notes: TEST DI AMES
- g) reproductive toxicity:
Test: Reproductive Toxicity Negative - Notes: TEST DI AMES
Test: NOAEC - Route: Inhalation - Species: Rat 9640 mg/m³ - Source: OECD 416, STUDIO SU 2 GENERAZIONI
- xylene - CAS: 1330-20-7
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 3500 mg/kg - Source: Direttiva 67/548/CEE, Allegato V, B.1.
Test: LD50 - Route: Skin - Species: Rabbit > 4200 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 6350 ppm - Duration: 4h
Test: LD50 - Route: Oral - Species: Mouse = 5627 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 20 mg/l - Duration: 4h
Test: LC50 - Route: Inhalation Vapour - Species: Rat = 5000 ppm - Duration: 4h
Test: LD50 - Route: Skin - Species: Rabbit > 1700 mg/kg
Test: LD50 - Route: Oral - Species: Rat 4300 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
Test: LD50 - Route: Oral 50 mg/kg - Notes: uomo
Test: LC50 - Route: Inhalation 10000 ppm - Duration: 6H - Notes: uomo
Test: LD50 - Route: Skin - Species: 18206 > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rat 5627 mg/kg
- b) skin corrosion/irritation:
Test: Skin Irritant - Species: Rabbit Positive
- c) serious eyedamage/irritation:
Test: Eye Irritant - Route: Inhalation Positive 200 ppm
- d) respiratory or skin sensitisation:
Test: Respiratory Tract Irritant - Route: Inhalation Positive 200 ppm
Test: Respiratory Tract Irritant Positive
- 2-methoxy-1-methylethyl acetate - CAS: 108-65-6
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 8532 mg/kg
Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 23.8 mg/l - Duration: 6H

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- Test: LC50 - Route: Inhalation - Species: Rat > 10.6 mg/l - Duration: 6H
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/l
- b) skin corrosion/irritation:
Test: Eye Irritant Positive
- c) serious eye damage/irritation:
Test: Eye Irritant - Route: Inhalation Vapour Positive
- e) germ cell mutagenicity:
Test: ames Negative - Source: OECD TG 471
- g) reproductive toxicity:
Test: noael - Route: Oral - Species: Rat 1000 mg/kg - Notes: BW/DAY
Test: noael - Route: Inhalation - Species: Rat 300 ppm - Duration: 6H - Source: OECD TG 414
- h) STOT-single exposure:
Test: Respiratory Tract Irritant - Route: Inhalation Positive
- i) STOT-repeated exposure:
Test: 18201.sistema nerv c - Route: Inhalation Positive
- ethyl acetate - CAS: 141-78-6
- a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit > 20000 mg/kg - Notes: bw
Test: LC0 - Route: Inhalation - Species: Rat > 6000 ppm - Duration: 6H
Test: LD50 - Route: Oral - Species: Rabbit 4934 mg/kg - Notes: OECD 401
Test: LC50 - Route: Inhalation - Species: Rat 22.5 ppm - Duration: 4h
Test: LC100 - Route: Inhalation - Species: Rat 22.5 ppm - Duration: 6H
Test: LD50 - Route: Oral - Species: Mouse = 4100 mg/kg
Test: LD50 - Route: Oral - Species: Rat 5620 mg/kg
Test: LC50 - Route: Inhalation - Species: 18206 1600 mg/kg
- b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rat Positive
- c) serious eyedamage/irritation:
Test: Eye Irritant - Species: Rabbit Positive
- h) STOT-single exposure:
Test: stot Positive
- Solvent naphtha (petroleum), light aromatic - CAS: 64742-95-6
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rabbit > 5000 mg/kg
Test: LD0 - Route: Skin - Species: Rat > 2000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 10.2 mg/l - Duration: 4h
Test: LD50 - Route: Oral - Species: Rat > 3400 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 3400 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 10.2 mg/l - Duration: 4h
- xylene - CAS: 1330-20-7
LD50 (RAT) ORAL: 5000 MG/KG
- ethyl acetate - CAS: 141-78-6
LD50 (RABBIT) ORAL: 4935 MG/KG

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;



- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

oligomers of hexamethylene diisocyanate - CAS: 28182-81-2

a) Aquatic acute toxicity:

- Endpoint: EC10 - Species: Algae 370 mg/l - Duration h: 72 - Notes: Statico - Desmodesmus subspicatus (EU C.3)
- Endpoint: EL50 - Species: Daphnia 127 mg/l - Duration h: 48 - Notes: Statico - Daphnia magna (EU C.2)
- Endpoint: EC50 - Species: fango attivo 3828 mg/l - Duration h: 3 - Notes: Statico - OECD 209
- Endpoint: ErC50 - Species: Algae > 1000 mg/l - Duration h: 72 - Notes: Statico (EU C.3) - Desmodesmus subspicatus
- Endpoint: LL0 - Species: Fish > 82.8 mg/l - Duration h: 96 - Notes: EU C.1 - Brachydanio rerio
- Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 96 - Notes: Danio rerio - Direttiva 67/548/CEE allegato V, C. 1.
- Endpoint: EC50 - Species: Daphnia > 100 mg/l - Duration h: 48 - Notes: Daphnia magna - Direttiva 67/548/CEE, Allegato V, C.2.
- Endpoint: ErC50 - Species: Algae > 100 mg/l - Duration h: 72 - Notes: Scenedesmus subspicatus - Direttiva 67/548/CEE, Allegato V, C.3.
- Endpoint: EC50 - Species: batteri > 100 mg/l - Duration h: 3 - Notes: Fanghi attivi - OECD TG 209
- Endpoint: EC50 - Species: Algae > 1000 mg/l - Duration h: 72 - Notes: Scenedesmus sp.

b) Aquatic chronic toxicity:

- Endpoint: NOEC - Species: Fish > 100 mg/l - Notes: Danio rerio
- Endpoint: NOEC - Species: Daphnia > 100 mg/l - Notes: Daphnia magna

n-butyl acetate - CAS: 123-86-4

a) Aquatic acute toxicity:

- Endpoint: EC50 - Species: Daphnia = 44 mg/l - Duration h: 48 - Notes: Daphnia magna
- Endpoint: EC50 - Species: Algae = 674.7 mg/l - Duration h: 72 - Notes: Desmodesmus subspicatus
- Endpoint: LC50 - Species: Fish = 18 mg/l - Duration h: 96 - Notes: Pimephales promelas
- Endpoint: LC50 - Species: Fish 62 mg/l - Duration h: 96 - Notes: Brachydanio rerio
- Endpoint: EC50 - Species: Algae = 675 mg/l - Duration h: 72 - Notes: Desmodesmus subspicatus
- Endpoint: LC50 - Species: Fish = 100 mg/l - Duration h: 96 - Notes: Lepomis macrochirus
- Endpoint: LC50 - Species: Fish = 62 mg/l - Duration h: 96 - Notes: Leociscus idus
- Endpoint: EC50 - Species: Daphnia = 72.8 mg/l - Duration h: 24 - Notes: Daphnia magna
- Endpoint: EC50 - Species: Daphnia 10-100 mg/l - Duration h: 48
- Endpoint: IC50 - Species: Algae 675 mg/l - Duration h: 72
- Endpoint: LC50 - Species: Fish 18 mg/l - Duration h: 96
- Endpoint: LC50 - Species: Daphnia 32 mg/l - Duration h: 48
- Endpoint: LC50 - Species: Fish 62 mg/l - Duration h: 96 - Notes: Danio rerio
- Endpoint: NOEC - Species: Algae 200 mg/l - Duration h: 72

xylene - CAS: 1330-20-7

a) Aquatic acute toxicity:

- Endpoint: EC50 - Species: Daphnia = 1 mg/l - Duration h: 24 - Notes: Daphnia magna
- Endpoint: ErC50 - Species: Algae = 4.36 mg/l - Duration h: 73 - Notes: Pseudokirchneriella subcapitata
- Endpoint: LC50 - Species: Fish = 2.6 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss

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Endpoint: NOEL - Species: Algae = 0.44 mg/l - Duration h: 73 - Notes: Pseudokirchneriella subcapitata
Endpoint: LC50 - Species: Fish Positive 13.5-17.3 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss
Endpoint: LC50 - Species: Fish = 13.4 mg/l - Duration h: 96 - Notes: Pimephales promelas
Endpoint: LC50 - Species: Fish > 780 mg/l - Duration h: 96 - Notes: Cyprinus carpio
Endpoint: LC50 - Species: Fish = 19 mg/l - Duration h: 96 - Notes: Lepomis macrochirus
Endpoint: LC50 - Species: Fish Positive 2.661-4.093 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss
Endpoint: LC50 - Species: Fish = 780 mg/l - Duration h: 96 - Notes: Cyprinus carpio
Endpoint: LC50 - Species: Fish Positive 7.711-9.591 mg/l - Duration h: 96 - Notes: Lepomis macrochirus
Endpoint: LC50 - Species: Fish Positive 30.26-40.75 mg/l - Duration h: 96 - Notes: Poecilia reticulata
Endpoint: LC50 - Species: Fish = 19 mg/l - Duration h: 96 - Notes: Lepomis macrochirus
Endpoint: LC50 - Species: Fish Positive 23.53-29.97 mg/l - Duration h: 96 - Notes: Pimephales promelas
Endpoint: LC50 - Species: Daphnia = 0.6 mg/l - Duration h: 48 - Notes: Gammarus lacustris
Endpoint: EC50 - Species: Daphnia = 3.82 mg/l - Duration h: 48 - Notes: Water flea
Endpoint: EC50 - Species: Daphnia 81 mg/l - Duration h: 24 - Notes: Daphnia magna
Endpoint: EC50 - Species: Algae 110 mg/l - Duration h: 48 - Notes: Desmodesmus subspicatus
Endpoint: LC50 - Species: Fish = 4093 mg/l - Duration h: 96
Endpoint: LC50 - Species: Fish > 1 mg/l - Duration h: 96
Endpoint: EC50 - Species: Algae = 11 mg/l - Duration h: 72 - Notes: Pseudokirchneriella subcapitata
Endpoint: EC50 - Species: Algae 2.2 mg/l - Duration h: 73 - Notes: Selenastrum capricornutum

b) Aquatic chronic toxicity:

Endpoint: NOEL - Species: Daphnia = 1.57 mg/l - Duration h: 504 - Notes: Daphnia magna
Endpoint: NOEL - Species: Fish > 1.3 mg/l - Duration h: 1344 - Notes: Oncorhynchus mykiss

c) Bacteria toxicity:

Endpoint: EC50 - Species: fango attivo 1000 mg/l - Duration h: 15

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

a) Aquatic acute toxicity:

Endpoint: NOEC - Species: Daphnia 278 mg/l - Duration h: 48 - Notes: daphnia magna
Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 96 - Notes: oryzias latipes - OECD Guide Line 203
Endpoint: EC50 - Species: Daphnia 373 mg/l - Duration h: 48 - Notes: daphnia magna
Endpoint: LC50 - Species: Fish = 161 mg/l - Duration h: 96 - Notes: Pimephales promelas
Endpoint: EC50 - Species: Daphnia > 400 mg/l - Duration h: 48 - Notes: Daphnia magna
Endpoint: ErC50 - Species: Algae > 1000 mg/l - Duration h: 72 - Notes: Pseudokirchneriella subcapitata - OECD TG 201
Endpoint: EC20 - Species: fango attivo > 1000 mg/l - Duration h: 0.5 - Notes: OECD TG 209
Endpoint: EC50 - Species: Algae > 1000 mg/l - Duration h: 96 - Notes: Selenastrum capricornutum
Endpoint: NOEC - Species: Algae > 1000 mg/l - Duration h: 96 - Notes: Selenastrum capricornutum
Endpoint: LC50 - Species: Fish 100-180 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss
Endpoint: LC50 - Species: Daphnia 408-500 mg/l - Duration h: 48 - Notes: Daphnia magna

b) Aquatic chronic toxicity:

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Endpoint: NOEC - Species: Fish 47.5 mg/l - Duration h: 336 - Notes: Oncorhynchus mykiss and Oryzias latipes

Endpoint: NOEC - Species: Daphnia > 100 mg/l - Duration h: 504 - Notes: Daphnia magna - OECD TG 211

ethyl acetate - CAS: 141-78-6

a) Aquatic acute toxicity:

Endpoint: NOEC - Species: Algae > 100 mg/l - Duration h: 72 - Notes: Scenedesmus subspicatus, Desmodesmus supspicatus

Endpoint: LC50 - Species: Fish 230 mg/l - Duration h: 96 - Notes: Pimephales promelas (OECD TG 203)

Endpoint: EC50 - Species: Daphnia 5600 mg/l - Duration h: 48 - Notes: Scenedesmus subspicatus

Endpoint: EC50 - Species: Daphnia = 260 mg/l - Duration h: 48 - Notes: Daphnia pulex

Endpoint: IC50 - Species: Algae = 5600 mg/l - Duration h: 48 - Notes: Desmodesmus subspicatus

Endpoint: EC20 - Species: Daphnia 3090 mg/l - Duration h: 48 - Notes: Daphnia magna

Endpoint: LC50 - Species: Algae = 5600 mg/l - Duration h: 48

Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 96 - Notes: Brachydanio rerio

Endpoint: EC50 - Species: Daphnia > 100 mg/l - Duration h: 48 - Notes: Daphnia magna

Endpoint: EC50 - Species: Algae > 100 mg/l - Duration h: 72 - Notes: Desmodesmus supspicatus

Endpoint: EC50 - Species: Daphnia 165 mg/l - Duration h: 48 - Notes: Daphnia magna

Endpoint: EC50 - Species: batteri = 5870 mg/l - Notes: 15 min - Photobacterium phosphoreum

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia 2.4 mg/l - Notes: 21 days; Daphnia magna, Daphnia pulex

c) Bacteria toxicity:

Endpoint: NOEC - Species: microorganismi 650 mg/l - Duration h: 16 - Notes: Pseudomonas Putida

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number

ADR-UN number: 1263

IATA-Un number: 1263

IMDG-Un number: 1263

14.2. UN proper shipping name

ADR-Shipping Name: Paints or paint related materials

IATA-Technical name: Paints or paint related materials

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IMDG-Technical name:	Paints or paint related materials	
14.3. Transport hazard class(es)		
ADR-Class:	3	
IATA-Class:	3	
IMDG-Class:	3	
14.4. Packing group		
ADR-Packing Group:	III	
IATA-Packing group:	III	
IMDG-Packing group:	III	
14.5. Environmental hazards		
Marine pollutant:	Marine pollutant	
14.6. Special precautions for user		
Rail (RID):	1263	
IMDG-Technical name:	Paints or paint related materials	
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code		N.A.
14.8. Hazchem	3Y	

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- Dir. 98/24/EC (Risks related to chemical agents at work)
 - Dir. 2000/39/EC (Occupational exposure limit values)
 - Regulation (EC) n. 1907/2006 (REACH)
 - Regulation (EC) n. 1272/2008 (CLP)
 - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 - Regulation (EU) 2015/830
 - Regulation (EU) n. 286/2011 (ATP 2 CLP)
 - Regulation (EU) n. 618/2012 (ATP 3 CLP)
 - Regulation (EU) n. 487/2013 (ATP 4 CLP)
 - Regulation (EU) n. 944/2013 (ATP 5 CLP)
 - Regulation (EU) n. 605/2014 (ATP 6 CLP)
- Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
- Restrictions related to the product:
 - Restriction 3
 - Restriction 40
 - Restrictions related to the substances contained:
 - Restriction 28
 - Restriction 29
 - Restriction 30
- Volatile Organic compounds - VOCs = 0.00 g/l
Volatile CMR substances = 0.00 %
Halogenated VOCs which are assigned the risk phrase R40 = 0.00 %
Organic Carbon - C = 0.00
- Where applicable, refer to the following regulatory provisions:
- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
 - Regulation (EC) nr 648/2004 (detergents).
 - 1999/13/EC (VOC directive)
- Provisions related to directives 82/501/EC (Seveso), 96/82/EC (Seveso II): N.A.

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15.2. Chemical safety assessment
No

SECTION 16: Other information

Full text of phrases referred to in Section 3:

- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H317 May cause an allergic skin reaction.
- H226 Flammable liquid and vapour.
- H336 May cause drowsiness or dizziness.
- EUH066 Repeated exposure may cause skin dryness or cracking.
- H312 Harmful in contact with skin.
- H319 Causes serious eye irritation.
- H315 Causes skin irritation.
- H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
- H304 May be fatal if swallowed and enters airways.
- H225 Highly flammable liquid and vapour.
- H411 Toxic to aquatic life with long lasting effects.
- H302 Harmful if swallowed.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Paragraphs modified from the previous revision:

- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

- ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
- SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
- CCNL - Appendix 1

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
- CAS: Chemical Abstracts Service (division of the American Chemical Society).
- CLP: Classification, Labeling, Packaging.
- DNEL: Derived No Effect Level.
- EINECS: European Inventory of Existing Commercial Chemical Substances.
- GefStoffVO: Ordinance on Hazardous Substances, Germany.
- GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
- IATA: International Air Transport Association.
- IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
- ICAO: International Civil Aviation Organization.

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ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.