

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830



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

1.1. Product identifier

Product name : REMOVE ALL
Registration number REACH : 01-2119969502-33
Product type REACH : Substance/mono-constituent
CAS number : 4431-83-8
EC number : 224-631-8
Molecular mass : 164.20 g/mol
Formula : C7H16O4

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

1.2.1 Relevant identified uses

Solvent

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

TEC7*
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
✉ +32 14 85 97 38
info@tec7.be
*TEC7 is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
✉ +32 14 85 97 38
info@tec7.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

2.2. Label elements

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

2.3. Other hazards

No other hazards known

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name REACH Registration No | CAS No EC No | Conc. (C) | Classification according to CLP | Note | Remark |
|---|------------------------|-----------|---------------------------------|------|------------------|
| 2,5,7,10-tetraoxaundecane 01-2119969502-33 | 4431-83-8 224-631-8 | C>99 % | | | Mono-constituent |

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SECTION 4: First aid measures

4.1. Description of first aid measures

General:

If you feel unwell, seek medical advice.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Rinse with water. Do not apply (chemical) neutralizing agents without medical advice. Soap may be used. Take victim to a doctor if irritation persists.

After eye contact:

Rinse with water. Do not apply (chemical) neutralizing agents without medical advice. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Do not apply (chemical) neutralizing agents without medical advice. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:

No effects known.

After skin contact:

Not irritating.

After eye contact:

Slight irritation.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

5.3.1 Instructions:

No specific fire-fighting instructions required.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

Contain released product, pump into suitable containers. Plug the leak, cut off the supply.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into absorbent material. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See heading 13.

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SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Store in a dark area. Keep container in a well-ventilated place. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, oxidizing agents, (strong) acids.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

If applicable and available it will be listed below.

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

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| Effect level (DNEL/DMEL) | Type | Value | Remark |
|--------------------------|---------------------------------------|-------------------------|--------|
| DNEL | Long-term systemic effects inhalation | 11.75 mg/m ³ | |
| | Long-term systemic effects dermal | 1.67 mg/kg bw/day | |

DNEL/DMEL - General population

REMOVE ALL

| Effect level (DNEL/DMEL) | Type | Value | Remark |
|--------------------------|---------------------------------------|-----------------------|--------|
| DNEL | Long-term systemic effects inhalation | 2.9 mg/m ³ | |
| | Long-term systemic effects dermal | 0.83 mg/kg bw/day | |
| | Long-term systemic effects oral | 0.83 mg/kg bw/day | |

PNEC

REMOVE ALL

| Compartments | Value | Remark |
|-----------------------|--------------------------|--------|
| Fresh water | 62.54 mg/l | |
| Marine water | 6.25 mg/l | |
| STP | 10 mg/l | |
| Fresh water sediment | 234.64 mg/kg sediment dw | |
| Marine water sediment | 23.46 mg/kg sediment dw | |
| Soil | 542.67 µg/kg soil dw | |

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

a) Respiratory protection:

Respiratory protection not required in normal conditions.

b) Hand protection:

Protective gloves against chemicals (EN374).

| Materials | Measured breakthrough time | Thickness | Protection index |
|-----------|----------------------------|-----------|------------------|
|-----------|----------------------------|-----------|------------------|

REMOVE ALL

| | | | |
|--------------|---------------|--------|---------|
| butyl rubber | > 480 minutes | 0.7 mm | Class 6 |
|--------------|---------------|--------|---------|

c) Eye protection:

Eye protection not required in normal conditions.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------|--|
| Physical form | Liquid |
| Odour | Characteristic odour |
| Odour threshold | No data available |
| Colour | Colourless |
| Particle size | Not applicable (liquid) |
| Explosion limits | 0.6 - 38.2 vol % |
| Flammability | Non-flammable |
| Log Kow | -0.69 ; Experimental value ; OECD 107 |
| Dynamic viscosity | 1 mPa.s ; 20 °C |
| Kinematic viscosity | 1.532 mm ² /s ; 25 °C 1 mm ² /s ; 40 °C |
| Melting point | < -65 °C |
| Boiling point | 210 °C |
| Evaporation rate | 17.380 ; Butyl acetate |
| Relative vapour density | No data available |
| Vapour pressure | 22.5 hPa ; 20 °C |
| Solubility | Water ; complete |
| Relative density | 0.99 ; 20 °C |
| Decomposition temperature | No data available |
| Auto-ignition temperature | 210 °C ; 1013 hPa ; ASTM E659-78 |
| Flash point | 88 °C ; 1013 hPa ; ASTM D93 ; Closed cup |
| Explosive properties | No chemical group associated with explosive properties |
| Oxidising properties | No chemical group associated with oxidising properties |
| pH | No data available |

9.2. Other information

| | |
|------------------|-------------------------------|
| Surface tension | 31.5 mN/m ; 25 °C |
| Absolute density | 992 kg/m ³ ; 20 °C |

SECTION 10: Stability and reactivity

10.1. Reactivity

Temperature above flashpoint: higher fire/explosion hazard.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

10.5. Incompatible materials

Oxidizing agents, (strong) acids.

10.6. Hazardous decomposition products

Upon combustion: CO and CO₂ are formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

REMOVE ALL

| Route of exposure | Parameter | Method | Value | Exposure time | Species | Value determination | Remark |
|-------------------|-----------|----------|-----------------|---------------|--------------|---------------------|--------|
| Oral | LD50 | OECD 423 | > 5000 mg/kg bw | | Rat (female) | Experimental value | |

Reason for revision: 5; 15

Publication date: 2013-02-08

Date of revision: 2019-04-15

Revision number: 0203

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| | | | | | | | |
|------------|------|----------|-----------------|------|---------------------|--------------------|--|
| Skin | LD50 | OECD 402 | > 2000 mg/kg bw | 24 h | Rat (male / female) | Experimental value | |
| Inhalation | | | | | | Data waiving | |

Conclusion

Not classified for acute toxicity

Corrosion/irritation

REMOVE ALL

| Route of exposure | Result | Method | Exposure time | Time point | Species | Value determination | Remark |
|-------------------|---------------------|----------|---------------|---------------------|---------|---------------------|----------------------------------|
| Eye | Slightly irritating | OECD 405 | | 1; 24; 48; 72 hours | Rabbit | Experimental value | Single treatment without rinsing |
| Skin | Not irritating | OECD 404 | 4 h | 1; 24; 48; 72 hours | Rabbit | Experimental value | |

Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

REMOVE ALL

| Route of exposure | Result | Method | Exposure time | Observation time point | Species | Value determination | Remark |
|----------------------|-----------------|-----------|---------------|------------------------|----------------|---------------------|--------|
| Dermal (on the ears) | Not sensitizing | OECD 442B | | | Mouse (female) | Experimental value | |

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

REMOVE ALL

| Route of exposure | Parameter | Method | Value | Organ | Effect | Exposure time | Species | Value determination |
|-------------------|-----------|--------------------------|-------------------------------|-------|-----------|---------------|------------------------|---------------------|
| Oral | | | | | | | | Data waiving |
| Dermal | NOAEL | OECD 410 | 1000 mg/kg bw/day | | No effect | 28 day(s) | Rabbit (male / female) | Experimental value |
| Inhalation | NOAEC | Subchronic toxicity test | 3127.89 mg/m ³ air | | No effect | 13 week(s) | Rat | Read-across |

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

REMOVE ALL

| Result | Method | Test substrate | Effect | Value determination |
|---|----------|-------------------------------|-----------|---------------------|
| Negative with metabolic activation, negative without metabolic activation | OECD 471 | Bacteria (S.typhimurium) | No effect | Experimental value |
| Negative with metabolic activation, negative without metabolic activation | OECD 476 | Mouse (lymphoma L5178Y cells) | No effect | Experimental value |

Mutagenicity (in vivo)

REMOVE ALL

No (test) data on the mixture available

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

REMOVE ALL

No (test) data on the mixture available

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

REMOVE ALL

Reason for revision: 5; 15

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REMOVE ALL

| | Parameter | Method | Value | Exposure time | Species | Effect | Organ | Value determination |
|------------------------|-----------|------------------------------|------------------|---------------|---------|-----------|-------|---------------------|
| Developmental toxicity | NOAEL | Developmental toxicity study | 195 mg/kg bw/day | | | No effect | | Read-across |
| Maternal toxicity | NOAEL | | 250 mg/kg bw/day | | | No effect | | Read-across |
| Effects on fertility | | | | | | | | Data waiving |

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

REMOVE ALL

No (test) data on the mixture available

Chronic effects from short and long-term exposure

REMOVE ALL

No effects known.

SECTION 12: Ecological information

12.1. Toxicity

REMOVE ALL

| | Parameter | Method | Value | Duration | Species | Test design | Fresh/salt water | Value determination |
|---|-----------|----------|------------|----------|---------------|-------------|------------------|---------------------|
| Acute toxicity fishes | LC50 | OECD 203 | > 100 mg/l | | Pisces | | | Experimental value |
| Acute toxicity crustacea | EC50 | OECD 202 | > 100 mg/l | 48 h | Daphnia magna | | | Experimental value |
| Toxicity algae and other aquatic plants | ErC50 | OECD 201 | > 100 mg/l | 72 h | Algae | | | Experimental value |

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

REMOVE ALL

Biodegradation water

| Method | Value | Duration | Value determination |
|-------------------------------|-------|-----------|---------------------|
| OECD 301D: Closed Bottle Test | 4.3 % | 28 day(s) | Experimental value |

Conclusion

Not readily biodegradable in water

12.3. Bioaccumulative potential

REMOVE ALL

BCF other aquatic organisms

| Parameter | Method | Value | Duration | Species | Value determination |
|-----------|--------|-------------------|----------|---------|---------------------|
| BCF | | 3.126; Wet weight | | | Literature study |

Log Kow

| Method | Remark | Value | Temperature | Value determination |
|----------|--------|-------|-------------|---------------------|
| OECD 107 | | -0.69 | | Experimental value |

Conclusion

Not bioaccumulative

12.4. Mobility in soil

REMOVE ALL

(log) Koc

| Parameter | Method | Value | Value determination |
|-----------|--------|-------|---------------------|
| log Koc | | 1.517 | |

Conclusion

Highly mobile in soil

12.5. Results of PBT and vPvB assessment

Substance does not meet the criteria of PBT, nor the criteria of vPvB according to Annex XIII of Regulation (EC) No 1907/2006, so is neither PBT nor vPvB.

12.6. Other adverse effects

REMOVE ALL

Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Reason for revision: 5; 15

Publication date: 2013-02-08

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REMOVE ALL

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

07 07 99 (wastes from the MFSU of fine chemicals and chemical products not otherwise specified: wastes not otherwise specified). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove to an authorized waste incinerator for solvents with energy recovery. Remove waste in accordance with local and/or national regulations. Do not discharge into the sewer. Do not discharge into surface water.

13.1.3 Packaging/Container

No data available

SECTION 14: Transport information

Road (ADR)

14.1. UN number

| | |
|-----------|-------------|
| Transport | Not subject |
|-----------|-------------|

14.2. UN proper shipping name

14.3. Transport hazard class(es)

| | |
|------------------------------|--|
| Hazard identification number | |
| Class | |
| Classification code | |

14.4. Packing group

| | |
|---------------|--|
| Packing group | |
| Labels | |

14.5. Environmental hazards

| | |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

14.6. Special precautions for user

| | |
|--------------------|--|
| Special provisions | |
| Limited quantities | |

Rail (RID)

14.1. UN number

| | |
|-----------|-------------|
| Transport | Not subject |
|-----------|-------------|

14.2. UN proper shipping name

14.3. Transport hazard class(es)

| | |
|------------------------------|--|
| Hazard identification number | |
| Class | |
| Classification code | |

14.4. Packing group

| | |
|---------------|--|
| Packing group | |
| Labels | |

14.5. Environmental hazards

| | |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

14.6. Special precautions for user

| | |
|--------------------|--|
| Special provisions | |
| Limited quantities | |

Inland waterways (ADN)

14.1. UN number

| | |
|-----------|------|
| UN number | 9003 |
|-----------|------|

14.2. UN proper shipping name

| | |
|----------------------|--|
| Proper shipping name | Substances with a flash-point above 60 °C and not more than 100 °C |
|----------------------|--|

14.3. Transport hazard class(es)

| | |
|---------------------|---|
| Class | 9 |
| Classification code | |

14.4. Packing group

| | |
|---------------|--|
| Packing group | |
| Labels | |

14.5. Environmental hazards

| | |
|--|----|
| Environmentally hazardous substance mark | no |
|--|----|

14.6. Special precautions for user

Reason for revision: 5; 15

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| | |
|--------------------|--|
| Special provisions | |
| Limited quantities | |
| Specific mention | Dangerous only when carried in tank vessels. |

Sea (IMDG/IMSBC)

| | |
|--|---|
| 14.1. UN number | |
| Transport | Not subject |
| 14.2. UN proper shipping name | |
| 14.3. Transport hazard class(es) | |
| Class | |
| 14.4. Packing group | |
| Packing group | |
| Labels | |
| 14.5. Environmental hazards | |
| Marine pollutant | |
| Environmentally hazardous substance mark | no |
| 14.6. Special precautions for user | |
| Special provisions | |
| Limited quantities | |
| 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code | |
| Annex II of MARPOL 73/78 | Not applicable, based on available data |

Air (ICAO-TI/IATA-DGR)

| | |
|--|-------------|
| 14.1. UN number | |
| Transport | Not subject |
| 14.2. UN proper shipping name | |
| 14.3. Transport hazard class(es) | |
| Class | |
| 14.4. Packing group | |
| Packing group | |
| Labels | |
| 14.5. Environmental hazards | |
| Environmentally hazardous substance mark | no |
| 14.6. Special precautions for user | |
| Special provisions | |
| Passenger and cargo transport | |
| Limited quantities: maximum net quantity per packaging | |

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

| VOC content | Remark |
|-------------|--------|
| 100 % | |
| 992.1 g/l | |

National legislation Belgium

REMOVE ALL

No data available

National legislation The Netherlands

REMOVE ALL

| | |
|----------------------|---|
| Waterbezwaarlijkheid | B (4); Algemene Beoordelingsmethodiek (ABM) |
|----------------------|---|

National legislation France

REMOVE ALL

No data available

National legislation Germany

REMOVE ALL

| | |
|---------|--|
| WGK | 1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017 |
| TA-Luft | 5.2.5 |

National legislation United Kingdom

REMOVE ALL

No data available

Other relevant data

REMOVE ALL

No data available

15.2. Chemical safety assessment

Reason for revision: 5; 15

Publication date: 2013-02-08

Date of revision: 2019-04-15

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REMOVE ALL

No chemical safety assessment is required.

SECTION 16: Other information

| | |
|--------------|--|
| (*) | INTERNAL CLASSIFICATION BY BIG |
| ADI | Acceptable daily intake |
| AOEL | Acceptable operator exposure level |
| CLP (EU-GHS) | Classification, labelling and packaging (Globally Harmonised System in Europe) |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No Effect Level |
| EC50 | Effect Concentration 50 % |
| ERC50 | EC50 in terms of reduction of growth rate |
| LC50 | Lethal Concentration 50 % |
| LD50 | Lethal Dose 50 % |
| NOAEL | No Observed Adverse Effect Level |
| NOEC | No Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| PBT | Persistent, Bioaccumulative & Toxic |
| PNEC | Predicted No Effect Concentration |
| STP | Sludge Treatment Process |
| vPvB | very Persistent & very Bioaccumulative |

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.