

NU3412 Decalcifier solution

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Date of issue: 03.12.2019 Revision date: 13.09.2023 Supersedes version of: 04.01.2023 Version: 1.2

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

1.1. Product identifier

Product form : Mixture
Name : Decalcifier solution
Trade name : NU3412 Decalcifier solution
EC-No. : 200-579-1
CAS-No. : 64-18-6
Product code : DECA-S01

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

No additional information available

1.4. Emergency telephone number

| Country | Organisation/Company | Address | Emergency number | Comment |
|----------------|---|----------------------------|------------------|---------|
| United Kingdom | National Poisons Information Service (Belfast Centre) Royal Victoria Hospital | Grosvenor Road BT12 6BA | 0344 892 0111 | |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Full text of H and EUH statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS05

Signal word (CLP) :

Warning

Contains :

Formic acid 98%

Hazard statements (CLP) :

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary statements (CLP) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

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

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

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2.3. Other hazards

PBT: not relevant – no registration required

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component

| | |
|---------------------------------|--|
| Formaldehyde solution (50-00-0) | PBT: not relevant – no registration required |
|---------------------------------|--|

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

Component

| | |
|--------------------------------|--|
| Formaldehyde solution(50-00-0) | The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 |
|--------------------------------|--|

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|----|---|
| Formic acid 98% | CAS-No.: 64-18-6 EC-No.: 200-579-1 EC Index-No.: 607-001-00-0 REACH-no: 01-2119491174-37 | 40 | Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 |
| Formaldehyde solution substance with a Community workplace exposure limit | CAS-No.: 50-00-0 EC-No.: 200-001-8 EC Index-No.: 605-001-00-5 | 1 | Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 |

Specific concentration limits:

| Name | Product identifier | Specific concentration limits (%) |
|-----------------------|---|---|
| Formic acid 98% | CAS-No.: 64-18-6 EC-No.: 200-579-1 EC Index-No.: 607-001-00-0 REACH-no: 01-2119491174-37 | ($2 \leq C < 10$) Eye Irrit. 2, H319 ($2 \leq C < 10$) Skin Irrit. 2, H315 ($10 \leq C < 90$) Skin Corr. 1B, H314 ($90 \leq C < 100$) Skin Corr. 1A, H314 |
| Formaldehyde solution | CAS-No.: 50-00-0 EC-No.: 200-001-8 EC Index-No.: 605-001-00-5 | ($0,2 \leq C < 100$) Skin Sens. 1, H317 ($5 \leq C < 25$) Skin Irrit. 2, H315 ($5 \leq C < 25$) Eye Irrit. 2, H319 ($5 \leq C < 100$) STOT SE 3, H335 ($25 \leq C < 100$) Skin Corr. 1B, H314 |

Full text of H and EUH statements: see section 16

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SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Get medical advice/attention if you feel unwell. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. |
| First-aid measures after skin contact | : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth out with water. If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting. |

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

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : Cough. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes eye irritation. Redness. |
| Symptoms/effects after ingestion | : May cause irritation to the digestive tract. |

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|------------------------------|--|
| Suitable extinguishing media | : Carbon dioxide. Water spray. Dry powder. |
|------------------------------|--|

5.2. Special hazards arising from the substance or mixture

| | |
|--|----------------------|
| Hazardous decomposition products in case of fire | : Corrosive vapours. |
|--|----------------------|

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Exercise caution when fighting any chemical fire. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

| | |
|----------------------|---|
| Protective equipment | : Equip cleanup crew with proper protection. Do not attempt to take action without suitable protective equipment. |
|----------------------|---|

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|--|
| For containment | : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. |
| Methods for cleaning up | : Take up liquid spill into absorbent material. |

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.

Storage temperature : 15 – 25 °C

Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

| NU3412 Decalcifier solution (64-18-6) | |
|---|------------------------------------|
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| IOEL TWA | 9 mg/m ³ |
| IOEL TWA [ppm] | 5 ppm |
| Formic acid 98% (64-18-6) | |
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| Local name | Formic acid |
| IOEL TWA | 9 mg/m ³ |
| IOEL TWA [ppm] | 5 ppm |
| France - Occupational Exposure Limits | |
| Local name | Acide formique |
| VME (OEL TWA) | 9 mg/m ³ |
| VME (OEL TWA) [ppm] | 5 ppm |
| Remark | Valeurs réglementaires indicatives |
| Germany - Occupational Exposure Limits (TRGS 900) | |
| Local name | Ameisensäure |
| AGW (OEL TWA) [1] | 9,5 mg/m ³ |
| AGW (OEL TWA) [2] | 5 ppm |
| Remark | DFG,EU,Y |
| Italy - Occupational Exposure Limits | |
| Local name | Acido formico |
| OEL TWA | 9 mg/m ³ |
| OEL TWA [ppm] | 5 ppm |
| Portugal - Occupational Exposure Limits | |
| Local name | Ácido fórmico |

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| Formic acid 98% (64-18-6) | |
|---|--|
| OEL TWA [ppm] | 5 ppm |
| OEL STEL [ppm] | 10 ppm |
| Spain - Occupational Exposure Limits | |
| Local name | Ácido fórmico |
| VLA-ED (OEL TWA) [1] | 9 mg/m ³ |
| VLA-ED (OEL TWA) [2] | 5 ppm |
| Remark | VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país), s (Esta sustancia tiene prohibida total o parcialmente su comercialización y uso como fitosanitario y/o como biocida. Para una información detallada acerca de las prohibiciones consúltese: Base de datos de productos biocidas: http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas Base de datos de productos fitosanitarios: http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf) |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Formic acid |
| WEL TWA [1] | 9,6 mg/m ³ |
| WEL TWA [2] | 5 ppm |
| Formaldehyde solution (50-00-0) | |
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| Local name | Formaldehyde |
| IOEL TWA | 260 mg/m ³ |
| IOEL TWA [ppm] | 0,2 ppm |
| IOEL STEL [ppm] | 0,4 ppm |
| Remark | skin sensitiser. SCOEL Recommendations (2008/Ongoing) |
| France - Occupational Exposure Limits | |
| Local name | Alcool méthylique (méthanol) |
| VME (OEL TWA) | 260 mg/m ³ |
| VME (OEL TWA) [ppm] | 200 ppm |
| VLE (OEL Ceiling/STEL) | 1300 mg/m ³ |
| VLE (OEL Ceiling/STEL) [ppm] | 1000 ppm |
| Remark | Valeurs recommandées/admises; substance classée cancérogène de catégorie 2 |
| Germany - Occupational Exposure Limits (TRGS 900) | |
| Local name | Methanol |
| AGW (OEL TWA) [1] | 270 mg/m ³ |
| AGW (OEL TWA) [2] | 200 ppm |
| Remark | DFG,EU,H,Y |
| Italy - Occupational Exposure Limits | |
| Local name | Metanolo |

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| Formaldehyde solution (50-00-0) | |
|---|--|
| OEL TWA | 260 mg/m ³ |
| OEL TWA [ppm] | 200 ppm |
| Portugal - Occupational Exposure Limits | |
| Local name | Metanol (Álcool metílico) |
| OEL TWA [ppm] | 200 ppm |
| OEL STEL [ppm] | 250 ppm |
| OEL Ceiling [ppm] | 0,3 ppm |
| Spain - Occupational Exposure Limits | |
| Local name | Formaldehído |
| VLA-ED (OEL TWA) [1] | 266 mg/m ³ |
| VLA-ED (OEL TWA) [2] | 200 ppm |
| VLA-EC (OEL STEL) | 0,37 mg/m ³ |
| VLA-EC (OEL STEL) [ppm] | 0,3 ppm |
| Remark | Sen (Sensibilizante. Véase Apartado 6), s (Esta sustancia tiene prohibida total o parcialmente su comercialización y uso como fitosanitario y/o como biocida. Para una información detallada acerca de las prohibiciones consúltese: Base de datos de productos biocidas: http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas Base de datos de productos fitosanitarios http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf). |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Methanol |
| WEL TWA [1] | 266 mg/m ³ |
| WEL TWA [2] | 200 ppm |
| WEL STEL | 333 mg/m ³ |
| WEL STEL (ppm) | 250 ppm |
| Remark | Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity) |

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

| NU3412 Decalcifier solution (64-18-6) | |
|---------------------------------------|-----------------------|
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 19 mg/m ³ |
| Long-term - local effects, inhalation | 9,5 mg/m ³ |
| DNEL/DMEL (General population) | |
| Acute - local effects, inhalation | 9,5 mg/m ³ |
| Long-term - local effects, inhalation | 3 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 2 mg/l |

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| NU3412 Decalcifier solution (64-18-6) | |
|---------------------------------------|----------------|
| PNEC aqua (marine water) | 0,2 mg/l |
| PNEC aqua (intermittent, freshwater) | 1 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 13,4 mg/kg dwt |
| PNEC sediment (marine water) | 1,34 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 1,5 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 7,2 mg/l |

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

| Eye protection | | | |
|----------------|----------------------|-----------------|----------|
| Type | Field of application | Characteristics | Standard |
| | | | EN 166 |

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

| Skin and body protection | |
|--------------------------|----------|
| Type | Standard |
| Protective clothing | |

Hand protection:

protective gloves

| Hand protection | | | | | |
|-----------------|--------------|-------------------|----------------|-------------|------------|
| Type | Material | Permeation | Thickness (mm) | Penetration | Standard |
| | Butyl rubber | 6 (> 480 minutes) | 0.70 mm | | EN ISO 374 |

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Other skin protection

Materials for protective clothing:

Wear safety footwear

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

| Respiratory protection | | | |
|------------------------|--|-----------|----------|
| Device | Filter type | Condition | Standard |
| | Type A - High-boiling (>65 °C) organic compounds | | EN 14387 |

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

Wash hands with water as a precaution. Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Liquid |
| Colour | : Colourless. |
| Odour | : Not available |
| Odour threshold | : Not available |
| Melting point | : 4 °C Decomposition: 'no' |
| Freezing point | : Not available |
| Boiling point | : 100,23 °C Atm. press.: 1013,25 hPa |
| Flammability | : Not available |
| Lower explosion limit | : Not available |
| Upper explosion limit | : Not available |
| Flash point | : 49,5 °C Atm. press.: 1013,25 hPa |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : Not available |
| Solubility | : Miscible with water. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50 °C | : Not available |
| Density | : Not available |
| Relative density | : 1,2195 Type: 'relative density' Temp.: 20 °C |
| Relative vapour density at 20 °C | : Not available |
| Particle characteristics | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable in use and storage conditions as recommended in item 7.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

May react with aluminium. Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

ZINC POWDER.

10.6. Hazardous decomposition products

Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| NU3412 Decalcifier solution (64-18-6) | |
|---------------------------------------|--|
| LD50 oral rat | 730 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 618 - 863 |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LC50 inhalation rat (mg/l) | 7,85 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity) |
| Formic acid 98% (64-18-6) | |
| LD50 oral rat | 730 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 618 - 863 |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LC50 inhalation rat (mg/l) | 7,85 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity) |
| Formaldehyde solution (50-00-0) | |
| LD50 oral rat | 640 mg/kg |
| LD50 oral | 0 (1187 – 2769) mg/kg |
| LD50 dermal rabbit | 17100 nl/kg |
| LC50 inhalation rat (mg/l) | 43700 mg/m ³ |
| LC50 inhalation rat (ppm) | < 463 ppm |
| Skin corrosion/irritation | : Causes skin irritation. |
| Formic acid 98% (64-18-6) | |
| pH | < 2,2 (10 g/l H ₂ O sol.) |

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| Formaldehyde solution (50-00-0) | |
|--|---|
| pH | 3 – 4 20 °C |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Formic acid 98% (64-18-6) | |
| pH | < 2,2 (10 g/l H ₂ O sol.) |
| Formaldehyde solution (50-00-0) | |
| pH | 3 – 4 20 °C |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| NU3412 Decalcifier solution (64-18-6) | |
| NOAEL (chronic, oral, animal/male, 2 years) | 400 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information) |
| Formic acid 98% (64-18-6) | |
| NOAEL (chronic, oral, animal/male, 2 years) | 400 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information) |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : Not classified |
| NU3412 Decalcifier solution (64-18-6) | |
| LOAEL (oral, rat, 90 days) | 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| NOAEL (oral, rat, 90 days) | 400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| NOAEC (inhalation, rat, dust/mist/fume, 90 days) | 0,244 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study) |
| Formic acid 98% (64-18-6) | |
| LOAEL (oral, rat, 90 days) | 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| NOAEL (oral, rat, 90 days) | 400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| NOAEC (inhalation, rat, dust/mist/fume, 90 days) | 0,244 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study) |
| Aspiration hazard | : Not classified |

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Not applicable

11.2.2. Other information

No additional information available

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SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

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| | |
|----------------------|---|
| LC50 - Fish [1] | 130 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Daphnia [1] | 365 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 1240 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| LOEC (chronic) | > 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| NOEC (chronic) | ≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |

Formic acid 98% (64-18-6)

| | |
|----------------------|---|
| LC50 - Fish [1] | 130 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Daphnia [1] | 365 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 1240 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| LOEC (chronic) | > 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| NOEC (chronic) | ≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |

Formaldehyde solution (50-00-0)

| | |
|----------------------|--|
| LC50 - Fish [1] | 6,7 mg/l Test organisms (species): Morone saxatilis |
| EC50 - Daphnia [1] | 5,8 mg/l Test organisms (species): Daphnia pulex |
| EC50 72h - Algae [1] | 3,48 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |
| EC50 72h - Algae [2] | 4,89 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |
| NOEC chronic fish | ≥ 48 mg/l Test organisms (species): Oryzias latipes Duration: '28 d' |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

NU3412 Decalcifier solution (64-18-6)

PBT: not relevant – no registration required

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Component

Formaldehyde solution (50-00-0)

PBT: not relevant – no registration required

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Not applicable.

12.7. Other adverse effects

Other adverse effects : Do not discharge into drains or rivers.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.
European List of Waste (LoW) code : 15 01 10* - packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 3412
UN-No. (IMDG) : UN 3412
UN-No. (IATA) : UN 3412
UN-No. (ADN) : UN 3412
UN-No. (RID) : UN 3412

14.2. UN proper shipping name

Proper Shipping Name (ADR) : FORMIC ACID
Proper Shipping Name (IMDG) : FORMIC ACID
Proper Shipping Name (IATA) : Formic acid
Proper Shipping Name (ADN) : FORMIC ACID
Proper Shipping Name (RID) : FORMIC ACID
Transport document description (ADR) : UN 3412 FORMIC ACID (Decalcifier solution), 8, II, (E)
Transport document description (IMDG) : UN 3412 FORMIC ACID (Decalcifier solution), 8, II
Transport document description (IATA) : UN 3412 Formic acid (Decalcifier solution), 8, II
Transport document description (ADN) : UN 3412 FORMIC ACID (Decalcifier solution), 8, II
Transport document description (RID) : UN 3412 FORMIC ACID (Decalcifier solution), 8, II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8
Danger labels (ADR) : 8



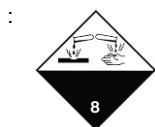
IMDG

Transport hazard class(es) (IMDG) : 8
Danger labels (IMDG) : 8

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IATA

Transport hazard class(es) (IATA) : 8
Danger labels (IATA) : 8



ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8



RID

Transport hazard class(es) (RID) : 8
Danger labels (RID) : 8



14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C3
Limited quantities (ADR) : 1I
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions (ADR) : TP2
Tank code (ADR) : L4BN
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 80

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Orange plates : 

Tunnel restriction code (ADR) : E
EAC code : •2X

Transport by sea

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP2
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SGG1, SG36, SG49
Properties and observations (IMDG) : Colourless liquid with a pungent odour. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L
ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C3
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C3
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4BN
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | |
|--|---|
| Reference code | Applicable on |
| 3(a) | Formic acid 98% |
| 3(b) | NU3412 Decalcifier solution ; Formic acid 98% |
| 40. | Formic acid 98% |

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

France

| Occupational diseases | |
|-----------------------|---|
| Code | Description |
| RG 43 | Diseases caused by formaldehyde and its polymers |
| RG 43 BIS | Cancerous conditions caused by formaldehyde |
| RG 84 | Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide |

Germany

Water hazard class (WGK)

: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).

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- Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 1 Entry 1. Paragraph 1) Coated and uncoated wood-based materials (chipboard, blockboard, veneer panels, and fibreboard) may not be placed on the market if the equalizing concentration of formaldehyde in the air in a test room exceeds 0.1 ml / cbm (ppm). Paragraph 2) Furniture that contains wood-based materials that do not meet the requirements of Paragraph 1 may not be placed on the market. Paragraph 1 is also deemed to have been fulfilled if the furniture complies with the equalization concentration specified in paragraph 1 during a whole-body test. Paragraph 3) Detergents, cleaning agents and care products with a mass content of more than 0.2% formaldehyde may not be placed on the market.
- Hazardous Incident Ordinance (12. BlmSchV) : Is not subject of the Hazardous Incident Ordinance (12. BlmSchV)

Netherlands

- SZW-lijst van kankerverwekkende stoffen : None of the components are listed
- SZW-lijst van mutagene stoffen : None of the components are listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

- Class for fire hazard : Class II-1
- Store unit : 5 liter
- Classification remarks : R10 <H315;H319>; Emergency management guidelines for the storage of flammable liquids must be followed
- Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

| Full text of H- and EUH-statements: | |
|-------------------------------------|---|
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3 |
| Acute Tox. 3 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| H226 | Flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |

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| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1A |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.