

Dibutylamine solution 0.1 mol/l - 0.1 N solution in toluene

Revision date: 20.09.2022

Product code: 10732

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

1.1. Product identifier

Dibutylamine solution 0.1 mol/l - 0.1 N solution in toluene

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|---------------------------------|------------------------------|
| Company name: | Fa. Bernd Kraft GmbH | |
| Street: | Stempelstraße 6 | |
| Place: | D-47167 Duisburg | |
| Telephone: | 0203/5194-0 | Telefax: 0203/5194-290 |
| e-mail: | info@berndkraft.de | |
| Contact person: | Abteilung Produktsicherheit | Telephone: 0203/5194-107/117 |
| e-mail: | produktsicherheit@berndkraft.de | |
| Internet: | www.berndkraft.de | |
| Responsible Department: | Abteilung Produktsicherheit | |

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
Acute Tox. 4; H332
Asp. Tox. 1; H304
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Repr. 2; H361d
STOT SE 3; H336
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

toluene
di-n-butylamine

Signal word: Danger

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Pictograms:



Hazard statements

- H225 Highly flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P331 Do NOT induce vomiting.
- P403+P235 Store in a well-ventilated place. Keep cool.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | | | Quantity |
|----------|---|--------------|------------------|--------------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 108-88-3 | toluene | | | 95 - < 100 % |
| | 203-625-9 | 601-021-00-3 | 01-2119471310-51 | |
| | Flam. Liq. 2, Repr. 2, Skin Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1; H225 H361d H315 H336 H373 H304 | | | |
| 111-92-2 | di-n-butylamine | | | 1 - < 5 % |
| | 203-921-8 | 612-049-00-0 | | |
| | Flam. Liq. 3, Acute Tox. 2, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1A; H226 H330 H311 H302 H314 | | | |

Full text of H and EUH statements: see section 16.

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Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|----------|-----------|---|--------------|
| | | Specific Conc. Limits, M-factors and ATE | |
| 108-88-3 | 203-625-9 | toluene | 95 - < 100 % |
| | | inhalation: LC50 = 28,1 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = 5580 mg/kg | |
| 111-92-2 | 203-921-8 | di-n-butylamine | 1 - < 5 % |
| | | inhalation: LC50 = 218 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); dermal: LD50 = 768 mg/kg; oral: LD50 = 550 mg/kg | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs.
Call a physician immediately.

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

Headache, Dizziness
Dizziness, Vomiting
Inebriation, Spasms
Circulatory collapse, Respiratory complaints
Dyspnoea, Unconsciousness
Irritant — skin irritation and eye damage

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam.
Extinguishing powder
Carbon dioxide (CO₂)

Unsuitable extinguishing media

no restriction

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5.2. Special hazards arising from the substance or mixture

Combustible liquids
Beware of reignition.
Hazardous combustion products
In case of fire may be liberated:
Carbon dioxide (CO₂) Carbon monoxide
Hydrogen cyanide (hydrocyanic acid)
Nitrogen oxides (NO_x)
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking.
This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).
Take action to prevent static discharges.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.
Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.

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Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

Draw up and observe skin protection programme.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Store in a place accessible by authorized persons only.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

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

Further information on storage conditions

Keep cool. Protect from sunlight.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

| CAS No | Substance | ppm | mg/m ³ | fib/cm ³ | Category | Origin |
|----------|-----------|-----|-------------------|---------------------|---------------|--------|
| 108-88-3 | Toluene | 50 | 192 | | TWA (8 h) | |
| | | 100 | 384 | | STEL (15 min) | |

Biological limit values

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|----------|-----------|-----------|-----------|---------------|---------------------------------|
| 108-88-3 | Toluene | Toluene | 0.02 mg/L | Blood | Prior to last shift of workweek |

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DNEL/DMEL values

| CAS No | Substance | | |
|--------------------------|-----------------|----------|------------------------|
| DNEL type | Exposure route | Effect | Value |
| 108-88-3 | toluene | | |
| Worker DNEL, long-term | inhalation | systemic | 192 mg/m ³ |
| Worker DNEL, acute | inhalation | systemic | 384 mg/m ³ |
| Worker DNEL, long-term | inhalation | local | 192 mg/m ³ |
| Worker DNEL, acute | inhalation | local | 384 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 384 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 56,5 mg/m ³ |
| Consumer DNEL, acute | inhalation | systemic | 226 mg/m ³ |
| Consumer DNEL, long-term | inhalation | local | 56,5 mg/m ³ |
| Consumer DNEL, acute | inhalation | local | 226 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 226 mg/kg bw/day |
| Consumer DNEL, long-term | oral | systemic | 8,13 mg/kg bw/day |
| 111-92-2 | di-n-butylamine | | |
| Worker DNEL, long-term | inhalation | systemic | 29 mg/m ³ |
| Worker DNEL, acute | inhalation | systemic | 29 mg/m ³ |
| Worker DNEL, long-term | inhalation | local | 29 mg/m ³ |
| Worker DNEL, acute | inhalation | local | 29 mg/m ³ |

PNEC values

| CAS No | Substance | |
|--|-----------------|--|
| Environmental compartment | Value | |
| 108-88-3 | toluene | |
| Freshwater | 0,68 mg/l | |
| Freshwater (intermittent releases) | 0,68 mg/l | |
| Marine water | 0,68 mg/l | |
| Freshwater sediment | 16,39 mg/kg | |
| Marine sediment | 16,39 mg/kg | |
| Micro-organisms in sewage treatment plants (STP) | 13,61 mg/l | |
| Soil | 2,89 mg/kg | |
| 111-92-2 | di-n-butylamine | |
| Freshwater | 0,084 mg/l | |
| Freshwater (intermittent releases) | 0,084 mg/l | |
| Marine water | 0,008 mg/l | |
| Freshwater sediment | 11,4 mg/kg | |
| Marine sediment | 1,14 mg/kg | |
| Micro-organisms in sewage treatment plants (STP) | 149,5 mg/l | |
| Soil | 2,23 mg/kg | |

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

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If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

- goggles
- Face protection umbrella

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

- Trade name/designation: KCL 890 Vitoject®
- Suitable material: FKM (fluoro rubber) 0,7 mm
- Wearing time with permanent contact: > 480 min

By short-term hand contact

- Trade name/designation: KCL 890 Vitoject®
- Suitable material: FKM (fluoro rubber) 0,7 mm
- Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

- Take off immediately all contaminated clothing and wash it before reuse.
- Wear fire resistant or flame retardant clothing.
- Wash hands and face before breaks and after work and take a shower if necessary.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Environmental exposure controls

- Do not allow to enter into surface water or drains.
- Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.
- Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|------------------------------|-------------------|
| Physical state: | Liquid | |
| Colour: | clear | |
| Odour: | like: Hydrocarbons, aromatic | |
| Odour threshold: | No data available | |
| Melting point/freezing point: | | No data available |
| Boiling point or initial boiling point and boiling range: | | >35 °C |
| Flammability | | |
| Solid/liquid: | | No data available |
| Gas: | | No data available |
| Lower explosion limits: | | No data available |
| Upper explosion limits: | | No data available |
| Flash point: | | <10 °C |
| Auto-ignition temperature: | | No data available |

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| | |
|--|-------------------------|
| Decomposition temperature: | No data available |
| pH-Value: | No data available |
| Viscosity / kinematic: | No data available |
| Water solubility: | No data available |
| Solubility in other solvents | No data available |
| Partition coefficient n-octanol/water: | No data available |
| Vapour pressure: | No data available |
| Density: | 0,865 g/cm ³ |
| Bulk density: | No data available |
| Relative vapour density: | No data available |

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustaining combustion:

Sustaining combustion

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

0

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

- Oxidising agent
- Nitric acid
- Acetic acid
- Strong acid
- Alcohols
- Ketone
- aldehydes
- ester
- Nitriles

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Phenols

10.4. Conditions to avoid

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

10.5. Incompatible materials

plastic
Plastic articles
Rubber articles
Light metal
copper
Copper alloys
Tin

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

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

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

Harmful if inhaled.
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).
Pulmonary oedema

ATEmix calculated

ATE (inhalation dust/mist) 3,356 mg/l

| CAS No | Chemical name | | | | |
|----------|-------------------------|----------------------|---------|--|---|
| | Exposure route | Dose | Species | Source | Method |
| 108-88-3 | toluene | | | | |
| | oral | LD50 mg/kg 5580 | Rat | Toxicology 4, 5-15 (1975) | EU Method B.1 |
| | dermal | LD50 mg/kg > 5000 | Rabbit | American Industrial Hygiene Association | Study investigated mortality in groups o |
| | inhalation (4 h) vapour | LC50 28,1 mg/l | Rat | Study report (1980) | OECD Guideline 403 |
| 111-92-2 | di-n-butylamine | | | | |
| | oral | LD50 mg/kg 550 | Rat | Publication (1954) | Evaluation of acute oral toxicity after |
| | dermal | LD50 mg/kg 768 | Rabbit | Publication (1954) | according to Draize et al. |
| | inhalation (4 h) vapour | LC50 218 mg/l | Rat | Study report (1987) | OECD Guideline 403 |
| | inhalation dust/mist | ATE 0,05 mg/l | | | |

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

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Suspected of damaging the unborn child. (toluene)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (toluene)

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (toluene)

Aspiration hazard

May be fatal if swallowed and enters airways.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Other information

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

Further information

Headache

Dizziness

Dizziness

Vomiting

Inebriation

Spasms

Circulatory collapse

Respiratory complaints

Dyspnoea

Unconsciousness

Irritant — skin irritation and eye damage

Gastrointestinal complaints

Conjunctival oedema (chemosis).

corrosive

Cough

Risk of serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

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| CAS No | Chemical name | | | | | |
|----------|--------------------------|------------------|-----------|---------------------------------|--|--|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 108-88-3 | toluene | | | | | |
| | Acute fish toxicity | LC50 5,5 mg/l | 96 h | Oncorhynchus kisutch | Transactions A. Fish. Soc. 110, 430-436. | Fry were exposed to toluene in a flow th |
| | Acute algae toxicity | ErC50 > 433 mg/l | 96 h | Pseudokirchneriella subcapitata | REACH Registration Dossier | Method: other |
| | Acute crustacea toxicity | EC50 11,5 mg/l | 48 h | Daphnia magna | REACH Registration Dossier | Method: other |
| | Fish toxicity | NOEC 1,39 mg/l | 40 d | Oncorhynchus kisutch | Transactions A. Fish. Soc. 110, 430-436. | Fry were exposed to toluene in a flow th |
| | Algae toxicity | NOEC > 400 mg/l | 7 d | Scenedesmus quadricauda | REACH Registration Dossier | Method: other |
| | Crustacea toxicity | NOEC 0,74 mg/l | 7 d | Ceriodaphnia dubia | Ecotoxicol. Environ. Saf. 39, 136-146. (| other: US EPA 600/4-91-003 |
| 111-92-2 | di-n-butylamine | | | | | |
| | Acute fish toxicity | LC50 5,5 mg/l | 96 h | Oncorhynchus mykiss | Chemosphere 9, 753-762 (1980) | other: IRSA, Quaderni dell'Instituto di |
| | Acute algae toxicity | ErC50 16,91 mg/l | 72 h | Desmodesmus subspicatus | Study report (1988) | other: DIN 38412, part 9 |
| | Acute crustacea toxicity | EC50 8,4 mg/l | 48 h | Ceriodaphnia dubia | Study report (1994) | other: Standard guide for conducting acu |
| | Crustacea toxicity | NOEC 4,2 mg/l | 21 d | Daphnia magna | Publication (1999) | OECD Guideline 211 |

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|----------|-----------------|---------|
| 108-88-3 | toluene | 2,73 |
| 111-92-2 | di-n-butylamine | 2,1 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|----------|-----------------|-----|--------------------------|----------------------|
| 108-88-3 | toluene | 90 | Leuciscus idus melanotus | Chemosphere 14 (10). |
| 111-92-2 | di-n-butylamine | 21 | fish | United States Enviro |

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

There are no data available on the mixture itself.

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12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Do not allow to enter into surface water or drains.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1993 |
| 14.2. UN proper shipping name: | FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine) |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Special Provisions: | 274 601 640D |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| Transport category: | 2 |
| Hazard No: | 33 |
| Tunnel restriction code: | D/E |

Inland waterways transport (ADN)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1993 |
| 14.2. UN proper shipping name: | FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine) |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Special Provisions: | 274 601 640D |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |

Marine transport (IMDG)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1993 |
| 14.2. UN proper shipping name: | FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine) |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |
| Special Provisions: | 274 |
| Limited quantity: | 1 L |

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Excepted quantity: E2
EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3
Special Provisions: A3
Limited quantity Passenger: 1 L
Passenger LQ: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 40, Entry 48
Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.
Water hazard class (D): 2 - obviously hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,8,9,11,12,13.

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

| Classification | Classification procedure |
|---------------------|--------------------------|
| Flam. Liq. 2; H225 | On basis of test data |
| Acute Tox. 4; H332 | Calculation method |
| Asp. Tox. 1; H304 | Calculation method |
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| Repr. 2; H361d | Calculation method |
| STOT SE 3; H336 | Calculation method |
| STOT RE 2; H373 | Calculation method |

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Dibutylamine solution 0.1 mol/l - 0.1 N solution in toluene

Revision date: 20.09.2022

Product code: 10732

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Relevant H and EUH statements (number and full text)

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| H332 | Harmful if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H361d | Suspected of damaging the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)