



80% BENZENE IN ACETONE-D6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 02/03/2017
DLM-5029

Revision date:

Version: 1.0

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

1.1. Product identifier

Product form : Mixtures
Product name : 80% BENZENE IN ACETONE-D6
Product code : DLM-5029

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA
USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225
Skin Irrit. 2 H315
Eye Irrit. 2 H319
Muta. 1B H340
Carc. 1A H350
STOT RE 2 H373
Asp. Tox. 1 H304

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45
Carc.Cat.1; R49
Muta.Cat.2; R46
F; R11
Xi; R38
N; R51/53
R67

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2 H225
Skin Irrit. 2 H315
Eye Irrit. 2 H319
Muta. 1B H340
Carc. 1A H350
STOT RE 2 H373
Asp. Tox. 1 H304
Aquatic Acute 2 H401

Full text of H statements : see section 16

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Adverse physicochemical, human health and environmental effects

Blood, Eyes, Female reproductive system, Bone marrow. Highly flammable liquid and vapor. May cause cancer (if inhaled, if swallowed, in contact with skin). May cause genetic defects (if inhaled, if swallowed, in contact with skin). Causes skin irritation. May be fatal if swallowed and enters airways.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: 100% BENZENE UNLABELED

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H340 - May cause genetic defects (if inhaled)
H350 - May cause cancer (if inhaled)
H373 - May cause damage to organs (blood, cardiovascular system, central nervous system, eyes) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical equipment
P260 - Do not breathe dust, gas, fume, mist, spray, vapors
P264 - Wash Both hands thoroughly after handling
P280 - Wear protective clothing, protective gloves
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H340 - May cause genetic defects (Dermal, Inhalation, oral)
H350 - May cause cancer (Dermal, Inhalation, oral)
H373 - May cause damage to organs (blood, eyes) through prolonged or repeated exposure (Dermal, Inhalation, oral)
H401 - Toxic to aquatic life

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe dust, fume, gas, mist, spray, vapors
P264 - Wash Both hands thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective clothing, protective gloves
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

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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
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see See the emergency and first aid section of this material safety data sheet. on this label)
P331 - Do NOT induce vomiting
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to Dispose in a safe manner in accordance with local/national regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
|------------------------|---|-------|--|
| 100% BENZENE UNLABELED | (CAS No) 71-43-2 (EC No) 200-753-7 (EC Index No) 601-020-00-8 (REACH-no) 01-2119447106-44 | 80.07 | F; R11 Xn; R65 Xi; R38 Carc.Cat.1; R45 Carc.Cat.1; R49 Muta.Cat.2; R46 |
| ACETONE-D6 (D, 99.9%) | (CAS No) 666-52-4 (EC No) 211-563-9 (Unlabeled) (EC Index No) 606-001-00-8 (Unlabeled) (REACH-no) 01-2119471330-49 | 19.93 | F; R11 Xi; R36 R67 |
| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
| 100% BENZENE UNLABELED | (CAS No) 71-43-2 (EC No) 200-753-7 (EC Index No) 601-020-00-8 (REACH-no) 01-2119447106-44 | 80.07 | Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1A, H350 |
| ACETONE-D6 (D, 99.9%) | (CAS No) 666-52-4 (EC No) 211-563-9 (Unlabeled) (EC Index No) 606-001-00-8 (Unlabeled) (REACH-no) 01-2119471330-49 | 19.93 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 |
| Name | Product identifier | % | GHS-US classification |
| 100% BENZENE UNLABELED | (CAS No) 71-43-2 | 80.07 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1A, H350 Asp. Tox. 1, H304 |
| ACETONE-D6 (D, 99.9%) | (CAS No) 666-52-4 | 19.93 | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336 |

Full text of R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Evacuate danger area. If medical advice is needed, have product container or label at hand. Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. Get immediate medical advice/attention.

First-aid measures after skin contact : Wash with plenty of soap and water. Take immediately victim to hospital. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.

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| | |
|--------------------------------------|--|
| First-aid measures after eye contact | : Immediately flush eyes thoroughly with water for at least 15 minutes. Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention. Do not induce vomiting. Call a physician immediately. |

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

| | |
|--------------------------------------|---|
| Symptoms/injuries | : May be fatal if swallowed and enters airways. |
| Symptoms/injuries after inhalation | : May be fatal if inhaled. |
| Symptoms/injuries after skin contact | : Harmful in contact with skin. Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : May be fatal if swallowed and enters airways. Risk of lung edema. |

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical. Alcohol resistant foam. Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|---|
| Fire hazard | : Highly flammable liquid and vapor. |
| Explosion hazard | : Flash back possible over important distance. Risk of explosion by shock, friction, fire or other sources of ignition. |
| Reactivity | : vapors may form flammable mixture with air. Highly flammable liquid and vapor. |

5.3. Advice for firefighters

| | |
|--------------------------------|--|
| Firefighting instructions | : Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |
| Other information | : Use water spray to cool exposed surfaces. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : No flames, no sparks. Eliminate all sources of ignition.

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment as required. Avoid breathing vapors, mist, gas. Ensure adequate air ventilation. Remove all sources of ignition. Evacuate danger area. Provide adequate ventilation to minimize dust and/or vapor concentrations. No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Stop leaks if it can be done without personal risk. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|---|
| For containment | : Vacuum with an equipment that avoids ignition risk. Comply with local regulations for disposal. Keep in suitable, closed containers for disposal. |
| Methods for cleaning up | : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. |
| Other information | : Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid all contact with skin, eyes, or clothing.

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| | |
|-------------------------------|---|
| Precautions for safe handling | : Ensure good ventilation of the work station. Avoid breathing vapors, mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------|--|
| Technical measures | : Keep dry. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store in a well-ventilated place. Keep container tightly closed. Ground/bond container and receiving equipment. |
| Storage conditions | : Store at room temperature away from light and moisture. |

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| 100% BENZENE UNLABELED (71-43-2) | | |
|----------------------------------|--------------------------------------|--|
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 0.50000000 ppm |
| Italy - Portugal - USA ACGIH | ACGIH STEL (ppm) | 2.5 ppm |
| Italy - Portugal - USA ACGIH | Remark (ACGIH) | Leukemia |
| USA OSHA | OSHA PEL (TWA) (ppm) | 10 ppm |
| ACETONE-D6 (D, 99.9%) (666-52-4) | | |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 500.00000000 ppm Remarks: Central Nervous System impairment. Hematologic effects. Upper Respiratory Tract irritation. Eye irritation. Adopted values or notations enclosed are those for which changes are proposed in the NIC. See Notice of Intended Changes (NIC). Substances for which there is a Biological Exposure Index or Indices (see BEI section). Not classifiable as a human carcinogen. Basis: USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | ACGIH STEL (ppm) | 750 ppm Remarks: Central Nervous System impairment. Hematologic effects. Upper Respiratory Tract irritation. Eye irritation. Adopted values or notations enclosed are those for which changes are proposed in the NIC. See Notice of Intended Changes (NIC). Substances for which there is a Biological Exposure Index or Indices (see BEI section). Not classifiable as a human carcinogen. Basis: USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | Remark (ACGIH) | Component: Acetone CAS-No.: 67-64-1 Value: TWA Control parameter: 250 ppm Remarks: Central Nervous System impairment. Upper Respiratory Tract irritation. Eye irritation. 2015 Adoption. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Not classifiable as a human carcinogen. Basis: USA. ACGIH Threshold Limit Values (TLV); Component: Acetone CAS-No.: 67-64-1 Parameters: Acetone Value: 50.0000 mg/l Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI); Component: Acetone CAS-No.: 67-64-1 Parameters: Acetone Value: 25 mg/l Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 590 mg/m ³ Basis: USA. NIOSH Recommended Exposure Limits |

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| ACETONE-D6 (D, 99.9%) (666-52-4) | | |
|----------------------------------|---|---|
| USA NIOSH | NIOSH REL (TWA) (ppm) | 250 ppm Basis: USA. NIOSH Recommended Exposure Limits |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 2400 mg/m ³ The value in mg/m ³ is approximate. Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| USA OSHA | OSHA PEL (STEL) (mg/m ³) | 1780 mg/m ³ Basis: California permissible exposure limits for chemical contaminants. (Title 8, Article 107) |
| USA OSHA | OSHA PEL (STEL) (ppm) | 750 ppm Basis: California permissible exposure limits for chemical contaminants. (Title 8, Article 107) |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 1200 mg/m ³ Basis: California permissible exposure limits for chemical contaminants. (Title 8, Article 107) |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 3000 ppm Basis: California permissible exposure limits for chemical contaminants. (Title 8, Article 107) |
| USA OSHA | Remark (OSHA) | Component: Acetone CAS-No.: 67-64-1 Parameters: Acetone Value: 500 ppm Basis: California permissible exposure limits for chemical contaminants. (Title 8, Article 107) |

8.2. Exposure controls

Appropriate engineering controls

: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Ensure good ventilation of the work station.

Personal protective equipment

: Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing

: Wear suitable protective clothing and gloves.

Hand protection

: Wear suitable protective clothing and gloves.

Eye protection

: Wear eye protection. Chemical goggles or face shield with safety glasses. Safety glasses.

Skin and body protection

: Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection

: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator. Wear respiratory protection.

Environmental exposure controls

: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

| | |
|---|--|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Molecular mass | : 78.11 g/mol |
| Color | : clear. Colorless. |
| Odor | : No data available |
| Odor threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : 5.5 °C (41.9 °F) |
| Freezing point | : No data available |
| Boiling point | : 80 °C (176 °F) |
| Flash point | : -11 °C (12.2 °F) - closed cup |
| Auto-ignition temperature | : 562 °C (1,043.6 °F) |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : 221.3 hPa (166 mmHg) at 37.7°C (99.9°F), 99.5 hPa (74.6 mmHg) at 20°C (68°F) |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Specific gravity / density | : 0.874 g/ml at 25 °C (77 °F) |

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| | |
|----------------------|--|
| Solubility | : Water: 1.88 g/l at 23.5 °C (74.3 °F) - soluble |
| Log Pow | : 2.13 at 25 °C (77 °F) |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosion limits | : 1.3 - 8 % (V) |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

vapors may form flammable mixture with air. Highly flammable liquid and vapor.

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Acids. Bases. Halogens. Strong oxidizing agents. Metallic salts.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| 100% BENZENE UNLABELED (71-43-2) | |
|----------------------------------|---|
| LD50 oral rat | > 5960 mg/kg male (OECD Test Guideline 401) |
| LD50 dermal rabbit | 8263 mg/kg |
| LC50 inhalation rat (mg/l) | 43.7 mg/m ³ female - 4 h |
| ACETONE-D6 (D, 99.9%) (666-52-4) | |
| LD50 oral rat | 5800 mg/kg Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Tremor. Behavioral: Headache. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |
| LD50 dermal | 7426 mg/kg Guinea pig |
| LC50 inhalation rat (mg/l) | 50100 mg/m ³ - 8 h Remarks: Drowsiness, Dizziness, Unconsciousness |
| ATE CLP (oral) | 5800.000 mg/kg body weight |
| ATE CLP (vapors) | 50.100 mg/l/4h |
| ATE CLP (dust, mist) | 50.100 mg/l/4h |

| | |
|--|--|
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : May cause genetic defects (if inhaled). |
| Carcinogenicity | : May cause cancer (if inhaled). |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : Not classified |
| Specific target organ toxicity – repeated exposure | : May cause damage to organs (blood, cardiovascular system, central nervous system, eyes) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed). |

| 100% BENZENE UNLABELED (71-43-2) | |
|----------------------------------|--|
| NOAEL (oral,rat,90 days) | 100 mg/kg bodyweight/day male and female - OECD Test Guideline 408 |

| | |
|---|---|
| Aspiration hazard | : May be fatal if swallowed and enters airways. |
| Potential Adverse human health effects and symptoms | : 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. |

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| | |
|--------------------------------------|---|
| Symptoms/injuries after inhalation | : May be fatal if inhaled. |
| Symptoms/injuries after skin contact | : Harmful in contact with skin. Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : May be fatal if swallowed and enters airways. Risk of lung edema. |

SECTION 12: Ecological information

12.1. Toxicity

| 100% BENZENE UNLABELED (71-43-2) | |
|----------------------------------|--|
| LC50 fish 1 | 5.9 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h |
| EC50 Daphnia 1 | 17.2 mg/l Daphnia magna (Water flea) - 48 h |
| LC50 fish 2 | 15 - 32 mg/l Pimephales promelas (Fathead minnow) - 96 h |
| LC50 other aquatic organisms 2 | 230 mg/l Lepomis macrochirus (Bluegill) - 96 h |
| EC50 Daphnia 2 | 9.2 mg/l Daphnia magna (Water flea) - 48 h |
| ErC50 (algae) | 100 mg/l Growth inhibition EC50 - Pseudokirchneriella subcapitata (Green algae) - 72 h (OECD Test Guideline 201) |
| LOEC (acute) | 17.2 mg/l Pimephales promelas (Fathead minnow) - 7 d |
| NOEC (chronic) | 10.2 mg/l Pimephales promelas (Fathead minnow) - 7 d |
| ACETONE-D6 (D, 99.9%) (666-52-4) | |
| LC50 fish 1 | 5540 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h |
| EC50 Daphnia 1 | 8800 mg/l Daphnia magna (Water flea) - 48 h |
| ErC50 (algae) | Remarks: No data available |

12.2. Persistence and degradability

| 100% BENZENE UNLABELED (71-43-2) | |
|----------------------------------|--|
| Persistence and degradability | Biodegradability Result: - Readily biodegradable. |
| Biodegradation | 96 % - Readily biodegradable (OECD Test Guideline 301F) aerobic - Exposure time 28 d |
| ACETONE-D6 (D, 99.9%) (666-52-4) | |
| Biodegradation | 91 % - Readily biodegradable. (OECD Test Guideline 301B) |

12.3. Bioaccumulative potential

| 80% BENZENE IN ACETONE-D6 | |
|-------------------------------------|---|
| Log Pow | 2.13 at 25 °C (77 °F) |
| 100% BENZENE UNLABELED (71-43-2) | |
| BCF fish 1 | 0.05 mg/l Leuciscus idus (Golden orfe - 3 d |
| Bioconcentration factor (BCF REACH) | 10 |
| Log Pow | 2.13 at 25 °C (77 °F) |
| ACETONE-D6 (D, 99.9%) (666-52-4) | |
| Log Pow | -0.24 |
| Bioaccumulative potential | There is no bioaccumulation. |

12.4. Mobility in soil

| 100% BENZENE UNLABELED (71-43-2) | |
|----------------------------------|----------------|
| Ecology - soil | Not available. |

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|---|--|
| Regional legislation (waste) | : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations. |
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Product/Packaging disposal recommendations: | : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. |
| Additional information | : Flammable vapors may accumulate in the container. |
| Ecology - waste materials | : Dispose of as unused product. |

80% BENZENE IN ACETONE-D6 DLM-5029

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: Transport information

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

14.1. UN number

UN-No.(DOT) : 1114
DOT NA no. : UN1114

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Benzene
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T4 - 2.65 178.274(d)(2) Normal.178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT RQ : 10 lbs.
Marine pollutant : No

14.3. Additional information

Emergency Response Guide (ERG) Number : 130
Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II
Class (ADR) : 3 - Flammable liquid
Hazard identification number (Kemler No.) : 33
Classification code (ADR) : F1
Hazard labels (ADR) : 3 - Flammable liquids



Orange plates : An orange rectangular label with a black border. The number "33" is in the top half and "1114" is in the bottom half, both in black text.

Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 1l
EAC : 3WE
APP : A(fl)
Excepted quantities (ADR) : E2

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Transport by sea

| | |
|-----------------------------|---|
| DOT Vessel Stowage Location | : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded. |
| DOT Vessel Stowage Other | : 40 - Stow "clear of living quarters" |
| MFAG-No | : 130 |

Air transport

| | |
|--|---------------------|
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 5 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 60 L |
| Civil Aeronautics Law | : Flammable liquids |

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

| 80% BENZENE IN ACETONE-D6 | |
|--|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313 | |
| CERCLA RQ | 10 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302. |
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard |
| 100% BENZENE UNLABELED (71-43-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313 | |
| CERCLA RQ | 10 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302. |
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard |
| ACETONE-D6 (D, 99.9%) (666-52-4) | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302. |
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard |
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313. |

15.2. International regulations

CANADA

| 80% BENZENE IN ACETONE-D6 | |
|---|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| 100% BENZENE UNLABELED (71-43-2) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

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15.2.1. National regulations

| |
|---|
| 80% BENZENE IN ACETONE-D6 |
| Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program) |
| 100% BENZENE UNLABELED (71-43-2) |
| Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program) |

15.3. US State regulations

| | | | | |
|--|---|--|---|----------------------------------|
| 80% BENZENE IN ACETONE-D6() | | | | |
| U.S. - California - Proposition 65 - Carcinogens List | | Yes | | |
| U.S. - California - Proposition 65 - Developmental Toxicity | | Yes | | |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | | No | | |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | | Yes | | |
| State or local regulations | | U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - West Virginia - Air Quality - Toxic Air Pollutant Emission Limits | | |
| 100% BENZENE UNLABELED (71-43-2) | | | | |
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| Yes | Yes | No | Yes | |
| ACETONE-D6 (D, 99.9%) (666-52-4) | | | | |
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| No | No | No | No | |
| 100% BENZENE UNLABELED (71-43-2) | | | | |
| State or local regulations | | | | |
| U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - West Virginia - Air Quality - Toxic Air Pollutant Emission Limits | | | | |
| ACETONE-D6 (D, 99.9%) (666-52-4) | | | | |
| State or local regulations | | | | |
| U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List | | | | |

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

| | |
|--------------|--|
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Carc. 1A | Carcinogenicity Category 1A |
| Eye Irrit. 2 | Serious eye damage/eye irritation Category 2 |

80% BENZENE IN ACETONE-D6

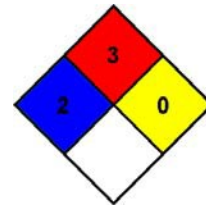
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| | |
|---------------|--|
| Flam. Liq. 2 | Flammable liquids Category 2 |
| Muta. 1B | Germ cell mutagenicity Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT RE 2 | Specific target organ toxicity (repeated exposure) Category 2 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H225 | Highly flammable liquid and vapor |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H336 | May cause drowsiness or dizziness |
| H340 | May cause genetic defects |
| H350 | May cause cancer |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| R11 | Highly flammable |
| R36 | Irritating to eyes |
| R38 | Irritating to skin |
| R45 | May cause cancer |
| R46 | May cause heritable genetic damage |
| R49 | May cause cancer by inhalation |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R65 | Harmful: may cause lung damage if swallowed |
| R67 | Vapors may cause drowsiness and dizziness |
| F | Highly flammable |
| N | Dangerous for the environment |
| Xi | Irritant |
| Xn | Harmful |

| | |
|--------------------|---|
| NFPA health hazard | : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. |
| NFPA fire hazard | : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. |
| NFPA reactivity | : 0 - Material that in themselves are normally stable, even under fire conditions. |



HMIS III Rating

| | |
|--------------|---|
| Health | : 2 Moderate Hazard - Temporary or minor injury may occur |
| Flammability | : 3 Serious Hazard |
| Physical | : 0 Minimal Hazard |

CIL Mixture SDS

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