

Material Safety Data Sheet

Product name

Butyl Acetate

1. Identification of the substance/mixture and of the company/undertaking

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| 1.1. Product name | Butyl Acetate |
| 1.2. CAS-No. | 123-86-4 |
| 1.3. Relevant identified uses of the substance or mixture and uses advised against | |
| Identified uses | Laboratory chemicals, Synthesis of substances |
| 1.4. Details of the supplier of the safety data sheet | |
| Company | Glory Global CO.,LTD |
| Address | C-208, 10, Nowon-ro 15-gil, Nowon-gu, Seoul, Korea |
| Emergency Phone | +82 2 6223 0862 |

2. Hazards identification

| | |
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| 2.1. Classification of the substance or mixture GHS | - Flammable liquids (Category 3), H226 |
| Classification in accordance with 29 CFR 1910 (OSHA HCS) | - Specific target organ toxicity – single exposure (Category 3), Central nervous system, H336 Short-term (acute) aquatic hazard (Category 3), H402 - For the full text of the H-Statements mentioned in this Section, see Section 16. |

2.2. GHS Label elements, including precautionary

Pictogram



Signal word

Warning

H226

Flammable liquid and vapour.

H336

May cause drowsiness or dizziness.

H402

Harmful to aquatic life.

2.3. Precautionary statement(s)

| | |
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| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ ventilating/ lighting equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |
| 2.4. Hazards not otherwise classified (HNOC) or not covered by GHS | Repeated exposure may cause skin dryness or cracking. |

3. Composition/information on ingredients

3.1. Substances

| | |
|------------------|--------------|
| Formula | C6H12O2 |
| Molecular weight | 116.16 g/mol |
| CAS No | 123-86-4 |
| EC-No. | 204-658-1 |

| Component | Classification | Concentration |
|------------------------|--|---------------|
| n-Butyl acetate | | |
| | Flam. Liq. 3: STOT SE 3: Aquatic Acute 3: H226, H336, H402 | ≤100 |

Additional Information

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First aid measures

4.1. Description of first aid measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.
- Move out of dangerous area.

If inhaled

- If breathed in, move person into fresh air. If not breathing, give artificial respiration.
- Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

- Flush eyes with water as a precaution.

If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
- Rinse mouth with water. Consult a physician.

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

- The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

- No data available

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

- Dry powder Dry sand

Unsuitable extinguishing media

- Do NOT use water jet.

5.2. Special hazards arising from the substance or mixture

- Carbon oxides

5.3. Special protective equipment and precautions for fire fighters

- Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information

- Use water spray to cool unopened containers.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Use personal protective equipment. Avoid breathing vapours, mist or gas.
- Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- For personal protection see section 8.

6.2. Environmental precautions

- Prevent further leakage or spillage if safe to do so.
- Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and materials for containment and cleaning up

- Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

6.4. Reference to other sections

- For disposal see section 13.

7. Handling and storage

7.1. Precautions for safe handling

- Avoid inhalation of vapour or mist.
- Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2. Conditions for safe storage, including any incompatibilities

- For precautions see section 2.2.
- Keep container tightly closed in a dry and well-ventilated place.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

- Storage class (TRGS 510): 3: Flammable liquids

- Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------------|----------|--|--------------------|--|
| n-Butyl acetate | 123-86-4 | TWA | 150ppm | USA, ACGIH Threshold Limit Value (TLV) |
| | Remarks | Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in th NIC | | |

| | | | | |
|--|--|--|----------------------------------|---|
| | | STEL | 200 ppm | USA. ACGIH Threshold Limit Value (TLV) |
| | | Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC | | |
| | | TWA | 150 ppm 710 mg/m ³ | USA. NIOSH Recommended Exposure Limits |
| | | ST | 200 ppm 950 mg/m ³ | USA. NIOSH Recommended Exposure Limits |
| | | TWA | 150 ppm 710 mg/m ³ | USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants |
| | | The value in mg/m ³ is approximate. | | |
| | | PEL | 150 ppm 710 mg/m ³ | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | STEL | 200 ppm 950 mg/m ³ | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | TWA | 50 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Upper Respiratory Tract irritation Eye irritation | | |
| | | STEL | 150 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Upper Respiratory Tract irritation Eye irritation | | |

8.2. Exposure controls

Appropriate engineering controls

– Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

a) Eye/face protection

– Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

b) Skin protection

– Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

c) Body Protection

– Dispose of contaminated gloves after use in accordance with applicable laws and
– Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

d) Respiratory protection

– Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or

e) Control of environmental exposure

– Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
– Discharge into the environment must be avoided.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Form: liquid
Colour: colourless, clear

Odour

fruity

Odour Threshold

No data available

pH

6.2 at 5.3 g/l at 20 °C (68 °F)

Melting / freezing point

Melting point/range: –78 °C (–108 °F) – lit.

Initial Boiling Point and Boiling Range

124 – 126 °C 255 – 259 °F – lit.

Flash point

27 °C (81 °F) – closed cup – Regulation (EC) No. 440/2008, Annex, A.9

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Upper/lower flammability or explosive limits

Upper explosion limit: 7.6 %(V)
Lower explosion limit: 1.7 %(V)

Vapour pressure

11.2 hPa at 20 °C (68 °F) – Regulation (EC) No. 440/2008, Annex, A.4

Vapour density

4.01 – (Air = 1.0)

Relative Density

0.88 g/cm³ at 25 °C (77 °F) – lit.

Water solubility

5.3 g/l at 20 °C (68 °F) – OECD Test Guideline 105 – soluble

Partition coefficient n-octanol/water

log Pow: 2.3 at 25 °C (77 °F) – OECD Test Guideline 117 – Bioaccumulation is not

Auto-ignition temperature

415 °C (779 °F) at 1,010 hPa – DIN 51794

Decomposition temperature

No data available

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| Viscosity | 0.83 mm ² /s at 20 °C (68 °F) – ASTM D 445 – 0.66 mm ² /s at 40°C (104 °F) – ASTM D |
| Explosive properties | No data available |
| Oxidizing properties | No data available |
| 9.2. Other safety information | |
| Conductivity | < 0.2 µS/cm |
| Surface tension | 61.3 mN/m at 1g/l at 20 °C (68 °F) – OECD Test Guideline 115 |
| Relative vapour density | 4.01 – (Air = 1.0) |

10. Stability and reactivity

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| 10.1. Reactivity | – No data available |
| 10.2. Chemical stability | – Stable under recommended storage conditions. |
| 10.3. Possibility of hazardous reactions | – Vapours may form explosive mixture with air. |
| 10.4. Conditions to avoid | – Heat, flames and sparks. |
| 10.5. Incompatible materials | – Strong oxidizing agents, Strong reducing agents, Strong bases |
| 10.6. Hazardous decomposition products | – Hazardous decomposition products formed under fire conditions.: Carbon oxides – Other decomposition products: No data available – In the event of fire: see section 5 |

11. Toxicological information

11.1. Information on toxicological effects

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| Acute toxicity | LD50 Oral – Rat – female – 10,760 mg/kg (OECD Test Guideline 423) Inhalation: No data available LD50 Dermal – Rabbit – male and female – 14,112 mg/kg (OECD Test Guideline 402) No data available. |
| Skin corrosion/irritation | Skin – Rabbit Result: No skin irritation – 4 h (OECD Test Guideline 404) Drying-out effect resulting in rough and chapped skin. |
| Serious eye damage/eye irritation | Eyes – Rabbit Result: No eye irritation (OECD Test Guideline 405) |
| Respiratory or skin sensitisation | No data available |
| Germ cell mutagenicity | Ames test Escherichia coli/Salmonella typhimurium Result: negative OECD Test Guideline 474 Mouse – male and female – Red blood cells (erythrocytes) Result: negative |
| 11.2. Carcinogenicity | |
| IARC | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| NTP | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA | No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. |
| 11.3. Reproductive toxicity | No data available |
| 11.4. Specific target organ toxicity – single exposure | May cause drowsiness or dizziness.,: Central nervous system Acute oral toxicity: Risk of aspiration upon vomiting., Aspiration may cause pulmonary oedema and pneumonitis. |
| 11.5. Specific target organ toxicity – repeated exposure | No data available |
| 11.6. Aspiration hazard | No data available |
| 11.7. Additional Information | Repeated dose toxicity – Rat – male and female – Oral – 13 Weeks – No observed adverse effect level – 125 mg/kg – Lowest observed adverse effect level – 500 mg/kg |

12. Ecological information

12.1. Toxicity

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| Fish | flow-through test LC50 – Pimephales promelas (fathead minnow) – 18 mg/l – 96 h (OECD Test Guideline 203) |
| Daphnia and other aquatic invertebrates | static test EC50 – Daphnia magna (Water flea) – 44 mg/l – 48 h (OECD Test Guideline 202) |
| Algae/aquatic plants | static test ErC50 – Pseudokirchneriella subcapitata (green algae) – 397 mg/l – 72 h (OECD Test Guideline 201) |
| Bacteria | Remarks: (in analogy to similar products) static test IC50 – Tetrahymena pyriformis – 356 mg/l – 40 h Remarks: (ECHA) |

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| 12.2. Persistence and degradability | |
| Biodegradability | aerobic – Exposure time 28 d Result: 83 % – Readily biodegradable. (OECD Test Guideline 301D) |
| Theoretical oxygen demand | 2,207 mg/g |
| Ratio BOD/ThBOD | Remarks: (Lit.) 7 – 46 % Remarks: (Lit.) |
| 12.3. Bioaccumulative potential | – No data available |
| 12.4. Mobility in soil | – No data available |
| 12.5. Results of PBT and vPvB assessment | – PBT/vPvB assessment not available as chemical safety assessment not required/not conducted |
| 12.6 Other adverse effects | – An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. – Harmful to aquatic life. – Discharge into the environment must be avoided. |

13. Disposal considerations

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| 13.1 Waste treatment methods | |
| Product | – Offer surplus and non-recyclable solutions to a licensed disposal company. – Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. |
| Contaminated packaging | – Dispose of as unused product. |

14. Transport information

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| 14.1. DOT (US) | – UN number: 1123 – Class: 3 – Packing group: III – Proper shipping name: Butyl acetates – Reportable Quantity (RQ): 5000 lbs – Poison Inhalation Hazard: No |
| 14.2. IMDG | – UN number: 1123 – Class: 3 – Packing group: III – EMS-No: F-E, S-D – Proper shipping name: BUTYL ACETATES |
| 14.3. IATA (Country variations may apply) | – UN number: 1123 – Class: 3 – Packing group: III – Proper shipping name: Butyl acetates |

15. Regulatory information

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| 15.1. SARA 302 Components | No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. |
| 15.2. SARA 313 Components | This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. |
| 15.3. SARA 311/312 Hazards | Fire Hazard |
| 15.4. Massachusetts Right To Know Components | No components are subject to the Massachusetts Right to Know Act. |
| 15.5. Pennsylvania Right To Know Components | – n-Butyl acetate – CAS-No.: 123-86-4 – Revision Date: 1993-04-24 |

16. Other information

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| 16.1. Further information | – Always work safely around open hatches on bulk tanks. The low density makes flotation difficult for immersed person. |
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