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1. Product and Supplier Identification

- A. Product Name : Butyl Acetate
- B. Recommended Use and Restrictions on Use
- Recommended Use : Solvent(paints, resin, inks, adhesives), Organic synthesis, etc(detergent, synthetic leather)
 - Restrictions on Use : Restrict except for recommended use
- C. Manufacturer/Supplier/Distributor Identification
- Company Name : Korea Alcohol Industrial Co., LTD.
 - Address : 14, Tapsil-ro 35beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, South Korea
 - Information Service or Emergency Tel. : [Http://www.ka.co.kr](http://www.ka.co.kr) / 031-881-8100
 - Division : Business Department

2. Hazards Identification

- A. Classification
- Flammable Liquid Category 2
(Flash Point < 23°C, Boiling point > 35°C)
- Specific Target Organ Toxicity(Single Exposure) Category 3 (Narcotic effects)**
Specific Target Organ Toxicity(Single Exposure) Category 3 (Respiratory tract irritation)
- B. Warning
- Label
- 
- Hazard Communication : DANGER!
 - Label Element

H225 Highly flammable Liquid and Vapor

H335 May cause irritation to the respiratory tract

H336 May cause drowsiness or dizziness
 - Terms for Precaution
 - Precaution

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 inhalation vapor/spray

P271 Keep handling outdoors or in a well – ventilated area

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

P303+P361+P353 If on skin(or hair) Take off immediately all contaminated clothing
Rinse skin with water/shower.

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P304+P340 If inhaled, Move person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTRE or doctor/physician if you feel unwell.

P370+P378 In case of fire, use water spray/alcohol resistant foam for extinction.

– Storage

P403+P233 Store in a well ventilated place. keep closed tightly.

P403+P235 Store in a well-ventilated place and keep cooling

P405 Store locked up.

– Disposal

P501 Dispose of contents/ container by incineration or recycle.

C. Other

○ NFPA

- **Health** 1
- Flammability 3
- Reactivity 0

3. Composition

Chemical name : Butyl Acetate

Synonyms : Butyl Acetate

CAS number : 123-86-4

Content(%) :

Name	Trade names and Synonyms	KE NO.	Content(%)
Butyl Acetate	n-Butyl Acetate; Acetic acid n-butyl ester; Butyl ethanoate	KE-04179	99.5
Water	'Dihydrogen oxide ; Oxidane	KE-35400	0.025
Other Organic Compound	–	–	0.475

4. First Aid Measures

A. Eye contact

Do not rub your eyes.

Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

Get medical attention immediately.

B. Skin contact

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Laundering enough contaminated clothing before reuse.

Get medical attention immediately.

C. Inhalation

When exposed to large amounts of steam and mist, move to fresh air.

Take specific treatment if needed.

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Get medical attention immediately.

D. Ingestion

Please be advised by doctor whether induction of vomit is demanded or not.

Rinse your mouth with water immediately.

Get medical attention immediately.

F. Notes to physician

Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. Fire Fighting Measure

A. Suitable(or unsuitable) extinguish media

Dry chemical, carbon dioxide, regular foam extinguishing agent, spray

Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

Not available

C. Special protective actions for firefighters

Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

Using a unattended and water devices in case of large fire and leave alone to burn if you do not imperative.

Avoid inhalation of materials or combustion by-products.

Do not access if the tank on fire.

Use appropriate extinguishing measure suitable for surrounding fire.

Keep containers cool with water spray.

Vapor or gas is burned at distant ignition sources can be spread quickly.

Due to the extremely low flash point, irrigating fire extinguishing may be less effective when put out a fire.

6. Accidental release measures

A. Personal precautions

Ventilate closed spaces before entering.

Do not touch spilled material. Stop leak if you can do it without risk.

Handling the damaged containers or spilled material after wearing protective equipment.

Do not direct water at spill or source of leak.

B. Environment precautions

Prevent runoff and contact with waterways, drains or sewers.

If large amounts have been spilled, inform the relevant authorities.

C. Methods for cleaning up

○ Small spills

sand or other non-combustible material, please let use absorption.

Wipe off the solvent.

Dike for later disposal.

Do not use plastic containers.

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- Large spills

Stay upwind and keep out of low areas. Dike for later disposal.

Notification to central government, local government. When emissions at least of the standard amount

Dispose of waste in accordance with local regulation.

Appropriate container for disposal of spilled material collected.

7. Handling and Storage

- A. Precaution for safe handling

Avoid direct physical contact.

Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.

Comply with all applicable laws and regulations for handling

Dealing only with a well-ventilated place.

Do not inhale the steam prolonged or repeated.

Avoid contact with heat, sparks, flame or other ignition sources.

- B. Conditions for safe storage, including any incompatibilities

Save applicable laws and regulations.

Do not apply any physical shock to container.

Avoid direct sunlight.

Keep in the original container.

Please pay attention to incompatibilities materials and conditions to avoid.

Collected them in sealed containers.

8. Exposure controls/personal protection

- A. Allowable contents

○ ACGIH : TWA, 150 ppm (713 mg/m³),
STEL, 200 ppm (950 mg/m³)

○ OSHA PEL : TWA – 150ppm 710mg/m³

- B. Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

- C. Personal protection

- Respiratory protection

Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

Any chemical cartridge respirator with organic vapor cartridge(s).

Any chemical cartridge respirator with a full facepiece and organic

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vapor cartridge(s).

Any air-purifying respirator with a full facepiece and an organic vapor canister.

**For Unknown Concentration or Immediately Dangerous to Life or Health :
Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.**

- Eye protection

Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.

Provide an emergency eye wash station and quick drench shower in the immediate work area.

- Hand protection

Wear appropriate chemical resistant glove.

- Body protection

Wear appropriate chemical resistant protective clothing.

9. Physical and Chemical properties

A. Appearance	:	Liquid, Colorless
B. Odor	:	Mild, Fruity odor
C. Odor threshold	:	No data
D. pH	:	No data
E. Melting/Freezing point	:	-78℃
F. Boiling point	:	126℃
G. Flash point	:	22℃(CC)
H. Evaporation ratio	:	1 (Butyl Acetate=1)
I. Flammable(solid, gas)	:	No data
J. Ignition or explosion range	:	1.2 / 7.6%
K. Vapor pressure	:	1.2 kPa(20℃)
L. Solubility	:	0.7g/100ml at 20℃(water), Solvent Solubility : Alcohol, Benzene, Ether, Aceton, Chloroform
M. Vapor density	:	4.0 (air = 1)
N. Specific gravity	:	0.88 (water = 1)
O. n-octanol/water partition coeff.	:	1.82
P. Autoignition temperature	:	420℃
Q. Decomposition temperature	:	No data
R. Viscosity	:	0.732cP at 20℃ 2)
S. Molecular formular/Weight	:	CH ₃ COOC ₄ H ₉ / 116.16

10. Stability and Reactivity

- A. Chemical stability : **This material is stable under recommended storage and handling conditions.**
- B. Possibility of Hazardous Reactions : **Cylinders exposed to fire may vent and**

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- C. Conditions to avoid : **release flammable gas.**
Avoid contact with incompatible materials and condition.
Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
Avoid contact with heat, sparks, flame or other ignition sources.
- D. Material to avoid : **Not available**
- E. Hazardous decomposition materials : **May emit flammable vapour if involved in fire.**

11. Toxicological Information

- A. Primary routes of entry
- ☐ **Respiratory tracts** : **May cause respiratory irritation.**
 - ☐ Oral contact : No data
 - ☐ Eye, Skin contact : No data
- B. Effects by acute and chronic exposure
- ☐ Acute toxicity
 - Oral : LD50 14130 mg/kg Rat
 - Dermal : LD50 17600 mg/kg Rabbit
 - Inhalation : **LC50 > 21 mg/L/4hr**
 - ☐ Skin corrosive or Irritation : **Not available**
 - ☐ Acute eye damages or Irritation : **Not available**
 - ☐ Respiratory hypersensitivity : **Not available**
 - ☐ Skin hypersensitivity : **Not available**
 - ☐ Carcinogenic : **Not available**
 - ☐ Germ cells mutagenicity : **Not available**
 - ☐ Reproductive toxicity : **Not available**
 - ☐ Specific Target Organ Toxicity (single exposure) : **May cause respiratory irritation.**
May cause drowsiness and dizziness.
 - ☐ Specific Target Organ Toxicity (repeated exposure) : No data.
 - ☐ Aspiration hazards : No data

12. Ecological Information

- A. Aquatic / Terrestrial / Ecology toxicity
- ☐ Fish : **LC50 18 mg/l 96 hr Pimephales promelas**
 - ☐ **Crustaceans** : **EC50 44 mg/l 48 hr Daphnia magna**
 - ☐ **Algae** : **Not available**
- B. Persistence and Biodegradability
- ☐ Persistence : **2.3 log Kow (25 °C, OECD TG 117)**
 - ☐ Biodegradability : No data

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- C. Bioaccumulation
- ☐ Biodegradability : 98 (%)
 - ☐ Bioaccumulation : No data
- D. Soil mobility : No data
- E. Ozone Hazard : No data
- F. Other hazardous : No data

13. Disposal Considerations

- A. Method of disposal
- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.
- B. Caution
- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. Transport Information

- A. UN number : 1123
- B. UN Shipping name : BUTYL ACETATE
- C. Hazard Class(Transport) : 3
- D. Packing class : **II**
- E. Marine pollutant : YES
- F. EmS code
- ☐ Fire : F-E
 - ☐ Spill : S-D

15. Regulatory Information

- A. Occupation Safety and Health Acts
- ☐ Working environment measurement materials : Buthyl Acetate, Cycle : 6 Month
 - ☐ Exposure standard setting materials : **Buthyl Acetate**
 - ☐ Managed Hazardous Materials : Buthyl Acetate, Cycle : 6 Month
 - ☐ Special medical examination material : not applicable
 - ☐ Manufacture Restriction Materials : not applicable
 - ☐ Need Permissiion Materials : not applicable
 - ☐ Special Managed Materials : not applicable
- B. Harmful chemical substance Management Acts
- ☐ Toxic Materials : not applicable
 - ☐ Emission Survey Materials : not applicable
 - ☐ Accident Prepare Materials : not applicable
 - ☐ Restriction Materials : not applicable

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- ☐ Permission Materials : not applicable
- ☐ Prohibition Materials : not applicable
- ☐ Related Law For Chemicals Registration, evaluation : Existing Chemicals
(Butyl Acetate, Water)
- C. Hazardous Safety Control Acts : 4 Class Petroleum (insoluble liquid), 1,000 liter
- D. Waste Control Acts : This Product is Industrial Waste(except for appointed Waste) in accordance with Waste Control Acts
- E. Other regulation and foreign regulation
 - ☐ Persistent Organic Pollutants Control Acts : Not application
 - ☐ EU Regulations
 - Classification results : R10, R66, R67
 - Hazard phases : R10, R66, R67
 - Precaution phases : S2, S25
 - ☐ US Regulations
 - OSHA Regulations (29CFR1910.119) : Not application
 - CERCLA 103 Regulations (40CFR302.4) : 2267.995(kg), 5000(lb)
 - EPCRA 302 Regulations (40CFR355.30) : Not application
 - EPCRA 304 Regulations (40CFR355.40) : Not application
 - EPCRA 313 Regulations (40CFR372.65) : Not application
 - ☐ Rotterdam Convention : Not application
 - ☐ Stockholm Convention : Not application
 - ☐ Montreal Protocol : Not application

16. Other Information

- A. References : MSDS (KOSHA)
TOXNET, U.S. National Library of Medicine
International Chemical Safety Cards(ICSC)
ECS-ESIS(European chemical Substances Information System)
IUCLID Chemical Data Sheet, EC-ECB
NCIS, National Institute of Environmental Research
Korea Information System for Chemical Safety Management
- B. Original preparation date : 2010, MAY. 07.
- C. Revision number and revision date : 5 / 2017, Jan. 23.
6 / 2017, Mar. 14. - Application Of NO.2016-19
Revised Regulation(2016, April, 6. MOEL Notice)
**7 / 2017. Aug. 2 - Revised MSDS in Korea
Safety and Health Corporation**
- D. Other No data