Safety Data Sheet

N-BUTYL ACETATE ; BUTYL ACETATE

Version：V2.0.0.1
Report No.：HGBZ22090WT2
Creation Date：2024/09/22
Revision Date：2024/09/22

*According to GHS (Ninth Revised Edition)

1 Identification

Product identifier

Product Name	N-BUTYL ACETATE ; BUTYL ACETATE
CAS No.	123-86-4
EC No.	204-658-1
Molecular Formula	$C_6H_{12}O_2$

Recommended use of the product and restrictions on use

Relevant identified uses	Widely used in nitrocellulose varnish, used as solvent in artificial leather, fabric and plastic processing, used as extractant in various petroleum processing and pharmaceutical processes, also used in spice compounding and apricot, banana, pear, pineapple, etc. Composition of various fragrances. Also used as a solvent for natural gums and synthetic resins, dehydrating agents, etc.
Uses advised against	No special instructions.

Details of the supplier

Applicant Name	SHANGHAI LINP CHEMICAL CO.,LTD
Applicant Address	NO. 300, LANE 3111, HUANCHENG WEST ROAD, FENGXIAN DISTRICT, SHANGHAI, CHINA
Applicant Post Code	200000
Applicant Telephone	+86-371-61312855
Applicant Fax	+86-371-61312855
Applicant E-mail	**service@linpchemical.com**
Supplier Name	SHANGHAI LINP CHEMICAL CO.,LTD
Supplier Address	NO. 300, LANE 3111, HUANCHENG WEST ROAD, FENGXIAN DISTRICT, SHANGHAI, CHINA
Supplier Post Code	200000
Supplier Telephone	+86-371-61312855
Supplier Fax	+86-371-61312855
Supplier E-mail	**service@linpchemical.com**

Emergency phone number

Emergency phone number	+86-371-61312855

2 Hazard(s) identification

Hazard classification according to GHS

Flammable Liquids	Category 2
Specific Target Organ Toxicity	Category 3(drowsiness or dizziness)

(Single Exposure)	

GHS Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H225	Highly flammable liquid and vapour
H336	May cause drowsiness or dizziness

Precautionary statements

- Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing gas/mist/vapour/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

- Response

P319	Get medical help if you feel unwell.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378	In case of fire: Use appropriate extinguishing media mentioned in Section 5 of the SDS to extinguish.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

- Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.

- Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description

- Physical and chemical hazards

	Highly flammable liquids, its vapor and air mixture can form explosive mixture.

- Health hazards

Inhaled	Cough. Sore throat. Dizziness. Headache.

Ingestion	Nausea.
Skin Contact	Dry skin.
Eye	Redness. Pain.

◆ Environmental hazards

	Please refer to 12th chapter of SDS.

3 Composition/information on ingredients

Substance/mixture

	Substance

Component	CAS No.	EC No.	Concentration (wt, %)
N-butyl acetate	123-86-4	204-658-1	99.5
Butan-1-ol	71-36-3	200-751-6	0.3
Acetic acid	64-19-7	200-580-7	0.11
Water	7732-18-5	231-791-2	0.09

4 First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse skin with plenty of water or shower.
Ingestion	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
Inhalation	Fresh air， rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Small Fire： Dry chemical, CO2, water spray or alcohol-resistant foam; Large Fire： Water spray, fog or alcohol-resistant foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter or spread fire.

Specific hazards arising from the substance or mixture

1	Will form explosive mixtures with air.
2	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/

	or vapour concentration.
3	Vapours may travel to source of ignition and flash back.
4	Liquid and vapour are flammable.
5	Development of hazardous combustion gases or vapor possible in the event of fire.
6	May expansion or decompose explosively when heated or involved in fire.

Special protective equipment and precautions for fire-fighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Use personal protective equipment,do not breathe gas/mist/vapour/spray.
6	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
7	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

1	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-static clothing.
2	In case of small amount of spillage, use clean non sparking tools to collect absorption materials.
3	In case of large amount of spillage, construct cofferdam or dig a hole to collect the spillage. Use foam cover to reduce evaporation. Water spray mist can reduce evaporation, but can not reduce the flammability of the leakage in the restricted space.
4	Collect absorbent material using a clean, non-sparking tool.
5	Cover with anti-solvent foam to reduce evaporation.
6	Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
7	Water spray reduces evaporation but does not reduce the flammability of spills in confined spaces.
8	Cut off the source of the leak as much as possible.
9	Keep leaks in a ventilated place.
10	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
11	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
12	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.

13	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7 Handling and storage

Precautions for safe handling

1	Avoid inhalation of vapors.
2	Use only non-sparking tools.
3	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4	Use explosion proof equipment.
5	Handling is performed in a well ventilated place.
6	Wear suitable protective equipment.
7	Avoid contact with skin and eyes.
8	Keep away from heat/sparks/open flames/ hot surfaces.

Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

8 Exposure controls/personal protection

Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
N-butyl acetate	USA - OSHA	150	710		
	South Korea	150	710	200	950
	Ireland	150	710	200	950
	Germany (AGS)	62	300	124	600
	Denmark	150	710	300	1420
	Australia	150	713	200	950
Butan-1-ol	USA - OSHA	100	300		
	South Korea	20	60		
	Ireland	20			
	Germany (AGS)	100	310	100	310
	Denmark	50	150	50	150
	Australia			50	152
Acetic acid	USA - OSHA	10	25		
	South Korea	10	25	15	37
	Ireland	10	25	15	37
	Germany (AGS)	10	25	20	50
	Denmark	10	25	20	50

	Australia	10	25	15	37

◆ Biological limit values

Biological limit values	No relevant regulations

◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 series standard Determination of toxic substances in workplace air.

Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

9 Physical and chemical properties and safety characteristics

Physical and chemical properties

Physical state	Liquid
Colour	Colorless transparent
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	-78
Initial boiling point and boiling range(°C)	124~126
Flash point(Closed cup,°C)	22
Evaporation rate	No information available
Flammability	Highly flammable
Upper/lower explosive limits[%(v/v)]	Upper limit：7.6（N-butyl acetate）; Lower limit：1.2（N-butyl acetate）
Vapor pressure	1.2 kPa（20°C,N-butyl acetate）
Relative vapour density(Air = 1)	4.0（N-butyl acetate）
Relative density(Water=1)	0.88（20°C,N-butyl acetate）
Solubility	Insoluble in water（N-butyl acetate）
n-octanol/water partition coefficient	1.82（N-butyl acetate）

Auto-ignition temperature(°C)	420 (N-butyl acetate)
Decomposition temperature(°C)	No information available
Kinematic viscosity	No information available
Particle characteristics	Not applicable

10 Stability and reactivity

Stability and reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	In contact with metal alkoxides may cause a fire. Flammable, its gas or powder, if in contact with air, may form explosive mixtures. In contact with active metals (alkali metals, Na, Ca etc.) causes a reaction and release hydrogen.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	Metal alkyl oxide, metal hydride, inorganic peroxide, nitrate and halogens oxyacid salts. Metal alkoxides, furfuryl alcohol, acetaldehyde, nitric acid, nitrate, nitrite, oxyacid salt halogen and inorganic peroxide. Alkali, sodium, calcium, and other active metal, halogen, metal oxide, nonmetal oxide, acyl halide and metal phosphide.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Acute toxicity

Component	LD_{50}(oral)	LD_{50}(dermal)	LC_{50}(inhalation,4h)
N-butyl acetate	10768mg/kg(Rat)	> 17600mg/kg(Rabbit)	No information available
Acetic acid	3310mg/kg(Rat)	1130mg/kg(Rabbit)	No information available
Butan-1-ol	790mg/kg(Rat)	3400mg/kg(Rabbit)	24.252mg/L(Rat)

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
N-butyl acetate	Not Listed	Not Listed
Butan-1-ol	Not Listed	Not Listed
Acetic acid	Not Listed	Not Listed
Water	Not Listed	Not Listed

Others

N-BUTYL ACETATE ; BUTYL ACETATE	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met

STOT-single exposure	May cause drowsiness or dizziness(Category 3(drowsiness or dizziness))
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Reproductive toxicity(additional)	Based on available data, the classification criteria are not met

12 Ecological information

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
N-butyl acetate	LC_{50}：18mg/L (96h)(Fish)	No information available	No information available
Acetic acid	LC_{50}：300.82mg/L (96h)(Fish)	EC_{50}：65mg/L (48h)(Crustaceans)	No information available
Butan-1-ol	LC_{50}：1910mg/L (96h)(Fish)	EC_{50}：1980mg/L (48h)(Crustaceans)	ErC_{50}：>1000mg/L (72h)(Algae)

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
Acetic acid	NOEC：34.3 ~57.2mg/L(Fish)	No information available	No information available
Butan-1-ol	No information available	NOEC：4.1mg/L(Crustaceans)	NOEC：180mg/L(Algae)

Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
Butan-1-ol	Low(Half-life = 54 days)	Low(Half-life = 3.65 days)
Acetic acid	Low	Low
Water	Low	Low

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Butan-1-ol	Low	BCF=64
Acetic acid	Low	Log Kow=-0.17
Water	Low	Log Kow=-1.38

Mobility in soil

Component	Mobility in soil	Soil Organic Carbon-Water Partitioning Coefficient (Koc)
Butan-1-ol	Medium	2.443
Acetic acid	High	1
Water	Low	14.3

Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
N-butyl acetate	Not PBT/vPvB
Butan-1-ol	Not PBT/vPvB

13 Disposal considerations

Disposal considerations

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label

Transporting Label	

IMDG-CODE

UN number	1123
UN proper shipping name	BUTYL ACETATES
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	Ⅱ
Marine pollutant (Yes or no)	No

ICAO/IATA-DG

UN number	1123
UN proper shipping name	BUTYL ACETATES
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	Ⅱ

UN-ADR

UN number	1123
UN proper shipping name	BUTYL ACETATES
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	Ⅱ

15 Regulatory information

International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIICS	ENCS
N-butyl acetate	√	√	√	√	√	√	√	√	√
Butan-1-ol	√	√	√	√	√	√	√	√	√
Acetic acid	√	√	√	√	√	√	√	√	√
Water	√	√	√	√	√	√	√	√	√

[EC inventory] European Inventory of Existing Commercial Chemical Substances
[TSCA] United States Toxic Substances Control Act Inventory
[DSL] Canadian Domestic Substances List
[IECSC] China Inventory of Existing Chemical Substances
[NZIoC] New Zealand Inventory of Chemicals
[PICCS] Philippines Inventory of Chemicals and Chemical Substances
[KECI] Korea Existing Chemicals Inventory
[AIICS] Australian. Inventory of Industrial Chemical (AIICS)
[ENCS] Japan Inventory of Existing & New Chemical Substances

Note:
"√" Indicates that the substance included in the regulations.
"×" No data or not inlcuded in the regulations.

16 Other information

Information on revision

Creation Date	2024/03/22
Revision Date	2024/03/22
Reason for revision	-

Reference

[1] IPCS: The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home。
[2] IARC, website: http://www.iarc.fr/。
[3] OECD: The Global Portal to Information on Chemical Substances, website: https://www.echemportal.org/echemportal/substancesearch/index.action。
[4] CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple。
[5] NLM: ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp。
[6] EPA: Integrated Risk Information System, website: http://cfpub.epa.gov/iris/。
[7] U.S. Department of Transportation: ERG, website: http://www.phmsa.dot.gov/hazmat/library/erg。
[8] Germany GESTIS-database on hazard substance, website: http://gestis-en.itrust.de/。

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC_{50}	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD_{50}	Lethal Dose 50%	NTP	National Toxicology Program
EC_{50}	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic

EC_X	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P_{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 9th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.