Issue date: 10/3/2003
Revision date: 4/18/2024

Safety Data Sheet

1. Chemical product and company identification

Product name : n-Pentyl acetate

Company information

Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section	:	Business Administration Department, Reagent Division
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@kanto.co.jp
Reference No	:	01333
Recommended use	:	For research use only
Restrictions on use	:	Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards	Flammable liquids	Category 3
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Specific target organ toxicity (single exposure)	Category 3 (narcosis)
	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)
	Specific target organ toxicity (repeated exposure)	Category 1 (optic nerve)
Environmental hazards	Aquatic acute	Category 3

Hazard pictograms



Signal word : Danger

Hazard statements :
Flammable liquid and vapor
Causes skin and eye irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Causes damage to organs (optic nerve) through prolonged or repeated exposure
Harmful to aquatic life

Precautionary statements

Prevention :
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take action to prevent static discharges.
Do not breathe mist/vapors.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF ON SKIN: Wash with plenty of water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor if you feel unwell.
Get medical advice/attention if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Storage : Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Synonyms : n-Amyl acetate

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
n-Pentyl acetate	≥ 98	C7H14O2	Listed	211-047-3	628-63-7

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

First-aid measures after ingestion : The chemical is volatile. Do not induce vomiting because it increases the risk of aspiration into the lungs. Get medical attention immediately. If necessary, rinse mouth with water.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media	:	Dry chemical, CO2, dry sand, or alcohol-resistant foam
Unsuitable extinguishing media	:	Water spray, Foam extinguisher
Firefighting instructions	:	Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area. Fight fire from windward. Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Alcohol-resistant foam extinguisher is effective for a large scale fire.
Personal protection (Emergency response)	:	Wear breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures	:	Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Environmental precautions

Environmental precautions	:	Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment	:	Absorb spill with inert material (e.g, diatomaceous earth, sand) and flush spillage area with copious amounts of water.
Prevention Measures for Secondary Accidents	:	Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures	:	Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Fire is strictly prohibited. Ventilate well at working places. Prevent build-up of electrostatic charges (e.g. by grounding) .
Precautions for safe handling	:	Use with an enclosed system or a local exhaust ventilation. Handle in a well-ventilated place. When outdoors, work is done from the windward. Do not allow contact with oxidizing substances.

Storage

Storage conditions	:	Store in a dark, cool place and tightly closed.
Material used in packaging/containers	:	Glass, fluorine resin, stainless steel. Do not use vinyl chloride resin, acrylic resin, polystyrene etc.

8. Exposure controls / Personal protection equipment

ACGIH TWA	50 ppm
ACGIH STEL	100 ppm

Appropriate engineering controls	:	Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiratory protection	:	If necessary, wear chemical cartridge respirator with an organic vapor cartage
Hand protection	:	Impervious protective gloves
Eye protection	:	Safety goggles
Skin and body protection	:	Protective clothing, protective boots

9. Physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless.
Odor	:	Banana like odor
pH	:	No data available
Melting point	:	-70.8 ° C
Freezing point	:	No data available
Boiling point	:	149.55 ° C
Flash point	:	25 ° C (C.C.)
Auto-ignition temperature	:	378.9 ° C
Decomposition temperature	:	No data available
Flammability	:	Flammable
Vapor pressure	:	8 hPa (25℃)
Relative density	:	No data available
Density	:	0.874 - 0.879 g/cm³ (20℃)
Relative gas density	:	4.49
Solubility	:	Organic solvents: Soluble in ethanol, diethyl ether, benzene, chloroform. Water: 0.17 % (20℃)
Partition coefficient n-octanol/water (log Pow)	:	2.3
Explosive limits (vol %)	:	1.1 - 7.5 vol %
Viscosity, kinematic	:	1.05 mm²/s (20℃)
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	May react with oxidizing substances.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under normal conditions of use.
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Oxidizing substances.
Hazardous decomposition products	:	Carbon monoxide.

11. Toxicological information

Acute toxicity (oral)	:	No classification rat LD50=6500mg/kg
Acute toxicity (dermal)	:	No classification Based on reports of LD50 values of 8359 mg/kg (male) and > 14080 mg/kg (female) for rabbits for a mixture consisting of 65% of this substance and 35% 2-methylbutyl acetate, it was classified as "No classification." Besides, the classification was conducted considering that the toxicity of this substance was equivalent to that of 2-methylbutyl acetate.
Acute toxicity (inhalation)	:	No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Causes skin irritation Although no specific data were available, there is a description that all amyl acetate compounds, including this substance, were irritating to the skin, therefore, it was classified into category 2.
Serious eye damage/irritation	:	Causes eye irritation Since there is a report that after application of this substance to the eyes of rabbits, mild irritation (irritation rating: 2/10) was observed, it was classified into category 2B.
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible Besides, there are descriptions that sensitization potential was slight in a maximization test with guinea pigs using an isomer mixture containing 60% of this substance, and that no sensitization was observed in a test in which an isomer of this substance (3-methylbutyl acetate) was applied to 197 human subjects.
Germ cell mutagenicity	:	Classification not possible There were no in vivo data. As for in vitro, it was negative in a bacterial reverse mutation test, a gene mutation test, a chromosomal aberration test and a sister chromatid exchange test with cultured mammalian cells.
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Classification not possible Besides, in a teratogenicity test with rats through the inhalation route using a mixture (65% n-pentyl acetate, 35% 2-methylbutyl acetate), although decreased fetal weight and variations occurred at or above doses where maternal toxicity was observed, no teratogenicity was observed. In addition, in a teratogenicity test with rabbits through the inhalation route, no effects were observed in the fetuses even at the doses where maternal toxicities were observed.
STOT-single exposure	:	May cause drowsiness or dizziness May cause respiratory irritation This substance was irritating to the respiratory tract. In humans, although the route of exposure was unknown, central nervous system depression effects such as dyspnea, nausea, cough, vomiting, diarrhea, headache, ataxia, giddiness, delirium and coma were observed. As for experimental animals, central nervous system depression such as narcotic effects, labored breathing, ataxia and loss of righting reflex in rats, mice, etc. were observed. From the above, this substance was considered to have respiratory tract irritation and narcotic effects, and it was classified into category 3 (respiratory tract irritation, narcsis).

STOT-repeated exposure	:	Causes damage to organs (optic nerve) through prolonged or repeated exposure In humans, there is a report that irritation to the eyes and photophobia were observed in workers exposed to pentyl acetate for 1 month-30 years. In addition, 30 workers who engaged in film production and were exposed to pentyl acetate mixtures at concentrations of 3700-14800 ppm, complained of sensitivity to light, conjunctival irritation and lacrimation at work, and in 4 of them who engaged for 4-9 years, the symptoms were severe, and narrowing of the field of vision and atrophic changes of the visual nerve were observed. As for experimental animals, there is a description that degeneration of the optic nerve was observed in a test in which rabbits were exposed by inhalation to a pentyl acetate mixture at 7500 ppm for 60 days, therefore, it was considered a finding that supported effects on the optic nerve in humans. From the above, it was classified into category 1 (optic nerve) as well as other isomers since disorder of the optic nerve was observed in pentyl acetate mixtures.
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Harmful to aquatic life Artemia salina LC50=53mg/L/24h
Aquatic chronic	:	No classification

Persistence and degradability

No additional information available

Bioaccumulative potential

Low bioconcentration
BCF : 15

Mobility in soil

High mobility
Koc : 34

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	1104
Proper Shipping Name (IMDG)	:	AMYL ACETATES

Packing group (IMDG)	:	III
Transport hazard class(es) (IMDG)	:	3

Air transport(IATA)

UN-No. (IATA)	:	1104
Proper Shipping Name (IATA)	:	Amyl acetates
Packing group (IATA)	:	III
Transport hazard class(es) (IATA)	:	3
Marine pollutant	:	Not applicable

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

Pollutant category	:	Y
MFAG-No	:	129

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : Solvents Handbook, T, Asahara el, Kodansha Scientific Ltd. (1976) .
Handbook of Dangerous Substances Springer-Verlag Tokyo (1991) .
Handbook of 17322 Chemical Products, The Chemical Daily Co. (2022) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.