ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Pinacolone

Revision Date:2026-03-21 Revision Number:1

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

Product identifier

Product name	: Pinacolone
CBnumber	: CB5245383
CAS	: 75-97-8
EINECS Number	: 200-920-4
Synonyms	: 3,3-DIMETHYLBUTAN-2-ONE;3,3-DIMETHYL-2-BUTANONE

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Hazard statements

H302 Harmful if swallowed

H225 Highly Flammable liquid and vapour

SECTION 3: Composition/information on ingredients

Substance

Product name	: Pinacolone

Synonyms	: 3,3-DIMETHYLBUTAN-2-ONE;3,3-DIMETHYL-2-BUTANONE
CAS	: 75-97-8
EC number	: 200-920-4
MF	: C6H12O
MW	: 100.16

SECTION 4: First aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

Inhalation

Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.

Ingestion

Do NOT induce vomiting. Get medical attention.

Most important symptoms and effects

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

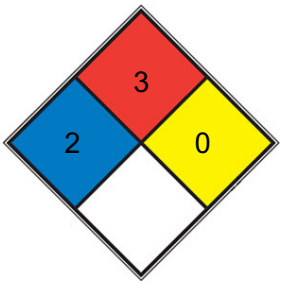
Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA 704



HEALTH	2	Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. diethyl ether, ammonium phosphate, iodine)
FIRE	3	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, acetone)
REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,N2)
SPEC. HAZ.		

SECTION 6: Accidental release measures

desc_info

Personal Precau	**tions**																
Ensure adequate	ventilation.	Use personal	p	rot	ective	equipment	as	required.	Avoid	con	tact	with s	kin, eyes or	clothin	g.	Remove	all
sources of ignition	. Take prec	autionary me	a	sur	es aga	inst static d	isc	harges.									
Environmental P	recautions																
See Section 12 fo	r additional	Ecological Inf	o	rm	ation.	Do not flush	int	o surface	water	or	sanit	ary se	wer system.				
Methods for Con	tainment a	nd Clean Up															
Soak up with inert	absorbent	material (e.g.	s	an	d, silic	a gel, acid b	ind	er, univer	sal bin	de	r, sa	wdust)	. Keep in su	itable,	cl	osed	
containers for dis	posal. Rem	ove all source	s	of i	gnition	. Use spar	k-p	roof tools	and exp	lo	sion	-proof	equipment.				
Refer to protective	measures	listed in Secti	o	ns	8 and	13.											

SECTION 7: Handling and storage

Handling

Ensure adequate ventilation. Wear personal protective equipment/face protection. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Storage

Flammables area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

Specific Use(s)

Use in laboratories

SECTION 8: Exposure controls/personal protection

Control Parameters

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours MDHS 88
Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers	-	EN 374	(minimum requirement)
Neoprene	recommendations			
Natural rubber				
PVC				

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
(Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

No protective equipment is needed under normal use conditions.

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Small scale/Laboratory use

Maintain adequate ventilation

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Clear

Physical State

Liquid

Odor

ethereal-minty-camphoraceous,warm-sweet odor

Odor Threshold

No data available

pH

No information available

Melting Point/Range

52.5 °C / -62.5 °F

Softening Point

No data available

Boiling Point/Range

106 - °C / 222.8 - 194 °F @ 760 mmHg

Flash Point

5 °C / 41 °F Method - No information available

Evaporation Rate

No data available

Flammability (solid,gas)

Not applicable Liquid

Explosion Limits

No data available

Vapor Pressure

31.5 mmHg @ 25 °C

Vapor Density

3.45 (Air = 1.0) (Air = 1.0)

Specific Gravity / Density

0.800

Bulk Density

Not applicable Liquid

Water Solubility

Very soluble

Solubility in other solvents

19g/l

Partition Coefficient (n-octanol/water)

No data available

desc_info

Component: Pinacolone log Pow: 1.27

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

Vapors may form explosive mixtures with air

Oxidizing Properties

No information available

Molecular Formula

C6 H12 O

Molecular Weight

100.16

Colour

Clear colorless to light yellow

Dielectric constant

12.8（17℃）

SECTION 10: Stability and reactivity

Stability

No information available.

Hazardous Reactions

No information available.

Hazardous Polymerization

No information available.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.

Materials to avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: Toxicological information

Product Information

(a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Pinacolone	LD50 = 610 mg/kg (Rat)		

(b) skin corrosion/irritation;

No data available

(c) serious eye damage/irritation;

No data available

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

(e) germ cell mutagenicity;

No data available

(f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

No data available

(h) STOT-single exposure;

No data available

(i) STOT-repeated exposure;

No data available

Target Organs

No information available.

(j) aspiration hazard;

No data available

Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects,both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, delayed

tiredness, nausea and vomiting

SECTION 12: Ecological information

Ecotoxicity effects

Harmful to aquatic organisms. Do not empty into drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Contains a substance which is: . The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Pinacolone	LC50: = 87 mg/L, 96h flow-through (Pimephales promelas)			

Persistence and Degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Degradation in sewage

Contains substances known to be hazardous to the environment or not degradable in waste

treatment plant

water treatment plants.

Bioaccumulative Potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Pinacolone	1.27	No data available

Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

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SECTION 13: Disposal considerations

Waste from Residues/Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be

landfilled or incinerated, when in compliance with local regulations.

SECTION 14: Transport information

Road and Rail Transport

UN-No

UN1224

Proper Shipping Name

KETONES, LIQUID, N.O

Technical Shipping Name

3,3-Dimethyl-2-butanone

Hazard Class

3

Packing Group

II

IMDG/IMO

UN-No

UN1224

Proper Shipping Name

KETONES, LIQUID, N.O

Technical Shipping Name

3,3-Dimethyl-2-butanone

Hazard Class

3

Packing Group

II

IATA

UN-No

UN1224

Proper Shipping Name

KETONES, LIQUID, N.O

Technical Shipping Name

3,3-Dimethyl-2-butanone

Hazard Class

3

Packing Group

II

Special Precautions for User

No special precautions r

SECTION 15: Regulatory information

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Pinacolone	X	X	X	X	200-920-4	X	X	X	X	X	X	KE-11259

National Regulations

SECTION 16: Other information

Revision Summary

Not applicable.

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS

Chemical Abstracts Service

TSCA

United States Toxic Substances Control Act Section 8(b)

Inventory

EINECS/ELINCS

European Inventory of Existing Commercial Chemical

Substances/EU List of Notified Chemical Substances

DSL/NDSL

Canadian Domestic Substances List/Non-Domestic

Substances List

PICCS

Philippines Inventory of Chemicals and Chemical Substances

ENCS

Japanese Existing and New Chemical Substances

IECSC

Chinese Inventory of Existing Chemical Substances

AICS

Australian Inventory of Chemical Substances

KECL

Korean Existing and Evaluated Chemical Substances

NZIoC

New Zealand Inventory of Chemicals

WEL

Workplace Exposure Limit

TWA

Time Weighted Average

ACGIH

American Conference of Governmental Industrial Hygienists

IARC

International Agency for Research on Cancer

DNEL

Derived No Effect Level

PNEC

Predicted No Effect Concentration

RPE

Respiratory Protective Equipment

LD50

Lethal Dose 50%

LC50

Lethal Concentration 50%

EC50

Effective Concentration 50%

NOEC

No Observed Effect Concentration

POW

Partition coefficient Octanol:Water

PBT

Persistent, Bioaccumulative, Toxic

vPvB

very Persistent, very Bioaccumulative

ICAO/IATA

International Civil Aviation Organization/International Air

Transport Association

IMO/IMDG

International Maritime Organization/International Maritime

Dangerous Goods Code

ADR

European Agreement Concerning the International Carriage of

Dangerous Goods by Road

MARPOL

International Convention for the Prevention of Pollution from

Ships

OECD

Organisation for Economic Co-operation and Development

ATE

Acute Toxicity Estimate

BCF

Bioconcentration factor

VOC

(Volatile Organic Compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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