Safety Data Sheet

2-Octanone

Version：V2.0.0.1
Report No.：THSD25120979494EN
Creation Date：2025/12/11
Revision Date：-

***Prepared according to UN GHS (the 8th revised edition)**

1 Identification of the chemical and supplier

Product identifier

Product Name	2-Octanone
Molecular Formula	-
REACH Registration Number	-
UFI	Not applicable

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

Relevant identified uses	It can be used as a high-performance solvent to dissolve resins, oils, waxes and other substances, and is applied in the formulation of paints and inks, cleaning of precision instruments and metal parts, and chemical extraction processes. It can also be used as an organic synthesis intermediate to participate in the synthesis of fragrance raw materials such as γ-nonanolide (coconaldehyde) (used for flavoring food and daily chemical products), pyrethroid pesticides, antibacterial and anti-inflammatory pharmaceutical raw materials, as well as polymer additives such as plasticizers and stabilizers. Ultimately, it covers multiple end fields such as food and daily chemicals, agricultural plant protection, pharmaceutical production, and paint processing.
Uses advised against	No special instructions.

Details of the supplier of the Safety Data Sheet

Name of the company	Jining Wansheng Environmental Protection Materials Co., Ltd.
Address of the company	The seat of the Yinsi Town Government in Wenshang County, Jining City (Chemical Industrial Park)
Post code	——
Telephone number	+86-17860188618
Fax number	0537-2334332
E-mail address	candice@changxing-plastic.com

Emergency telephone number

Emergency telephone number	+86-17860188618
Opening hours	24h

2 Hazards identification

Hazard classification according to GHS

Flammable liquids	Category 3
Acute toxicity (Oral)	Category 5

Acute toxicity (Dermal)	Category 4
Skin corrosion/irritation	Category 3
Short-term (acute) aquatic hazard	Category 3

Label elements

Hazard pictograms	
Signal word	Warning

Hazard statements

H226	Flammable liquid and vapour.
H303	May be harmful if swallowed.
H312	Harmful in contact with skin.
H316	Causes mild skin irritation.
H402	Harmful to aquatic life.

Precautionary statements

◆ Prevention

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.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.

◆ Response

P370+P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P332+P313	If skin irritation occurs: Get medical advice/ attention.
P303+P361+P353	Take offimmediately all contaminated clothing. Rinse skin withwater/ shower.

◆ Storage

P403+P235	Store in a well-ventilated place. Keep cool.

◆ Disposal

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

3 Composition/information on ingredients

Substance/mixture

	Substance

Component	Weight % content (or range)	Classification according to Regulation（EC）No. 1272/2008 [CLP]	Specific Conc. Limits, M-factors
2-Octanone CAS：111-13-7 EC：203-837-1	99.5	Not classified	-
Water CAS：7732-18-5 EC：231-791-2	0.5	Not classified	-

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 and then wash skin with water and soap. Refer for medical attention.
Ingestion	Refer for medical attention.
Inhalation	Fresh air, rest.
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	Carbon dioxide Foam Dry powder.
Unsuitable extinguishing media	There is no restriction on the type of extinguishing agent used.

Specific hazards arising from the substance or mixture

1	Development of hazardous combustion gases or vapor possible in the event of fire.
2	May expansion or decompose explosively when heated or involved in fire.
3	Carbon oxides

Advice for firefighters

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 agent from contaminating surface water or the ground water system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

1	Ensure adequate ventilation. Remove all ignition sources. Take anti-static measures.
2	Quickly evacuate personnel to a safe area, away from the spill area and upwind.
3	Use personal protective equipment and do not breathe dust/fume.

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	Cut off the source of the leak as much as possible.
2	Keep leaks in a ventilated place.
3	Isolate the leaked contaminated area and restrict access.

7 Handling and storage

Precautions for safe handling

◆ Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.

◆ Measures to prevent fire

1	Keep away from heat/sparks/open flames/ hot surfaces.

◆ Measures to prevent aerosol and dust generation

1	Avoid formation of dust and aerosols.
2	Provide suitable exhaust equipment where dust is generated.

◆ Advice on general occupational hygiene

1	Wash hands and face after using of the substances.
2	Replace the contaminated clothing immediately.

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.

Specific end use(s)

1	In addition to use mentioned in the first parts, unforeseen other specific end uses.

8 Exposure controls/personal protection

Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m³	ppm	mg/m³
2-Octanone	The Netherlands	-	-	-	-
	Poland	-	-	-	-
	Latvia	-	-	-	-
	Germany (DFG)	-	-	-	-

◆ 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 300.1~GBZ/T 300.160-2017; GBZ/T 300.161~GBZ/T 300.164-2018 Determination of toxic substances in workplace air (Series standard).

◆ Derived No effect level (DNEL)

Component	Route of exposure	DNEL for Workers			
		Acute effects(local)	Acute effects(systemic)	Chronic effects(local)	Chronic effects(systemic)
2-Octanone	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)

Predicted No Effect Concentration (PNEC)	No information available

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	Set up emergency exit and necessary risk-elimination area.
4	Handle in accordance with good industrial hygiene and safety practice.

Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear appropriate chemical protective gloves.
Respiratory protection	Must wear appropriate personal dust proof gas mask.
Skin and body protection	Must wear appropriate chemical protective clothing and chemical resistant shoes.

9 Physical and chemical properties and safety characteristics

Physical and chemical properties

Physical state	Oily liquid
Colour	Colorless and transparent
Odor	Special fragrant smell
Odor threshold	No information available
pH	No information available
Melting point/freezing point(°C)	No information available
Initial boiling point and boiling range(°C)	No information available
Flash point(Open cup,°C)	65
Evaporation rate	No information available
Flammability	Not flammable
Upper/lower explosive limits[%(v/v)]	Upper limit：No information available；Lower limit：No information available
Vapor pressure	No information available
Vapor density(Air = 1)	No information available
Relative density(Water=1)	0.82g/cm³
Solubility	No information available
n-octanol/water partition coefficient	No information available
Auto-ignition temperature(°C)	No information available
Decomposition temperature(°C)	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Particle characteristics	No information available

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	Strong oxidizing agents.
Conditions to avoid	Strong heating.
Incompatible materials	No information available.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Acute toxicity

组分	LD_{50}(oral)	LD_{50}(dermal)	LC_{50}(inhalation,4h)
2-Octanone	Rat-3,089 mg/kg	No information available	Rabbit - 1,337 mg/kg

Carcinogenicity

Component	IARC	NTP
2-Octanone	Not list	Not list

Endocrine disrupting properties

Endocrine disrupting properties	No information available

Others

	2-Octanone
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Risk of serious damage to eyes
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	Based on available data, the classification criteria are not met
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
2-Octanone	LC_{50}: 36mg/L (96h)	No information available	No information available

Chronic aquatic toxicity

Chronic aquatic toxicity	No information available

Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment (according to (EC) No 1907/2006)
2-Octanone	No information available

Endocrine disrupting properties

Endocrine disrupting properties	No information available

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 and Mark

Transporting Label	

IMDG-CODE

UN number	1224
UN proper shipping name	Ketones,liquid,n.o.s.(Octan-2-one)
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	III
Ems Code	F-E, S-D
Marine pollutant (Yes or no)	Yes

ICAO/IATA-DG

UN number	1224
UN proper shipping name	Ketones,liquid,n.o.s.(Octan-2-one)
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	III
Marine pollutant (Yes or no)	Yes

UN-ADR

UN number	1224
UN proper shipping name	Ketones,liquid,n.o.s.(Octan-2-one)
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	III

15 Regulatory information

International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIICS	ENCS
2-Octanone	√	√	√	√	√	√	√	√	√
Water	√	√	√	√	√	√	√	√	√

[EINECS] 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
[AIIC] Australia. Inventory of Industrial Chemicals (AIIC)

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	2025/12/11
Revision Date	-
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	International Maritime Dangerous Goods
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 8th 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.