福建沃尔法化学科技有限公司
Fujian Wolfa Chemical Technology Co., Ltd

DESIGN REPORT OF SAFETY DATA SHEET

Revision Date: Dec. 28, 2025

Name of the sample	DICARBONYLCYCLOPENTADIENYL COBALT
Applicant	Fujian Wolfa Chemical Technology Co., Ltd.
Supplier	Fujian Wolfa Chemical Technology Co., Ltd.
Composition of the sample	DICARBONYLCYCLOPENTADIENYL COBALT: ≥99%
Warranty of Design	GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) Eleventh revised edition
Design Result of SDS please see next page.	

Notes: This SDS is valid before the implementation of the Twelfth revised edition GHS.

Section 1 Product and Company Identification

> Product Identifier

Product Name	DICARBONYLCYCLOPENTADIENYL COBALT
Synonyms	——
CAS No.	12078-25-0
EC No.	235-139-8
Molecular Formula	$C_7H_5CoO_2$

> Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses	Please consult manufacturer.
Uses Advised Against	Please consult manufacturer.

> Details of the Supplier of the Safety Data Sheet

Applicant Name	Fujian Wolfa Chemical Technology Co., Ltd.
Application Address	Room 2620, Building 18, Xingguang Plaza, No.970 Anji South Road, Fengze District, Quanzhou City, Fujian Province
Applicant Post Code	362000
Applicant Telephone	+86-17854166533
Applicant Fax	——
Applicant E-mail	——
Supplier Name	Fujian Wolfa Chemical Technology Co., Ltd.
Supplier Address	Room 2620, Building 18, Xingguang Plaza, No.970 Anji South Road, Fengze District, Quanzhou City, Fujian Province
Supplier Post Code	362000
Supplier Telephone	+86-17854166533
Supplier Fax	——
Supplier E-mail	——

> Emergency Phone Number

Emergency Phone Number	+86-17854166533

Section 2 Hazards Identification

Hazard class and label elements of the product according to GHS (the Eleventh revised edition):

> GHS Hazard Class

Flammable Liquids	Category 3,H226
Acute Toxicity – Oral	Category 3,H301
Acute Toxicity –Inhalation	Category 3,H331
Acute Toxicity – Dermal	Category 2,H310

Respiratory Sensitization	Category 1B,H334
Germ Cell Mutagenicity	Category 2,H341
Carcinogenicity	Category 2,H351

> GHS Label Elements

Pictogram



Signal Word Danger

> Hazard Statements

H226	Flammable liquid and vapour.
H301 + H331	Toxic if swallowed,Toxic if inhaled.
H310	Fatal in contact with skin.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.

> Precautionary Statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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 breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response

P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.Rinse mouth.
P302 + P352	IF ON SKIN: wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing.

	Rinse SKIN with water/shower.
P304 + P340 + P311	IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.Call a POISON CENTER or doctor/physician.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P342 + P311	IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician. Take off contaminated clothing and wash before reuse.
P361 + P364	In case of fire: Use … for extinction.
P370 + P378 P312	Call a POISON CENTER or doctor/physician if you feel unwell.
Storage	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	
P501	The disposal of contents/containers shall comply with the requirements of local/regional/national/international regulations.

Section 3 Composition/Information on Ingredients

Component	CAS No.	EC No.	Concentration (weight percent, %)
DICARBONYLCYCLOPENTADIENYL COBALT	12078-25-0	235-139-8	≥99

Section 4 First Aid Measures

> Description of First Aid Measures

General Advice	Emergency responders should protect themselves.Show this safety data sheet to the doctor in attendance.Seek immediate medical advice.
Eye Contact	Rinse with plenty of water. If easy to do, remove contact lens, if worn. Get medical advice/ attention.
Skin Contact	Take off all contaminated clothing immediately. If on skin, rinse well with water. Get medical advice/ attention.
If swallowed	If swallowed: Make the victim drink water (up to 2 cups) and seek medical help immediately. If medical attention cannot be obtained within 1 hour, as an exception, induce vomiting (only when the victim is conscious), administer activated charcoal (prepared as a 10% slurry with 20 - 40 grams) and seek medical treatment as soon as possible.
If inhalation	After inhalation: Move the victim to an area with fresh air. Seek medical attention immediately. If breathing stops: Immediately perform mechanical ventilation and use oxygen if necessary.

> Most Important Symptoms and Effects, both Acute and Delayed

The most important known symptom and effects are described in the labelling(see section 2.2) and/or in section 11

> Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

Section 5 Fire Fighting Measures

> Extinguishing Media

Suitable extinguishing media：Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

> Specific Hazards Arising from the chemical

1. Carbon oxides
2. Cobalt / Cobalt oxide
3. Combustible
4. The vapor is heavier than air, so it can diffuse along the ground.
5. It can form an explosive mixture with air at high temperatures.
6. Hazardous gases or vapors may be generated when there is a fire.

> Special protective actions for fire-fighters

Firefighters must wear self-contained breathing apparatus and full fire-fighting suits, and fight the fire upwind.

Move the container from the fire site to an open area as much as possible and cool it with water.

If the container in the fire site has changed color or makes a sound from the safety pressure relief device, it is necessary to evacuate immediately.

Isolate the accident site and prohibit unauthorized personnel from entering.

Collect and dispose of the fire-fighting water to prevent environmental pollution.

Section 6 Accidental Release Measure

> Personal Precautions, Protective Equipment and Emergency Procedures

It is recommended that emergency response personnel wear self-contained breathing apparatus, anti-static clothing and oil-resistant rubber gloves.

Advice for non-emergency personnel: Do not inhale vapors or aerosols.

Contact with or crossing over the leaked substances is prohibited.

All equipment used during the operation should be grounded, and sufficient ventilation should be ensured. Keep away from heat sources and ignition sources.

Cut off the leakage source as much as possible. Eliminate all ignition sources.

Designate a warning area according to the affected area of the liquid flow, vapor or dust diffusion. Unauthorized personnel should evacuate to a safe area from the crosswind or upwind direction.

> Environmental Precautions

Prevent the leaked substances from entering the sewer. There is a risk of explosion.

> Methods and Materials for Containment and Cleaning Up

Small-scale leakage: Collect the leaked liquid in a sealable container as much as possible. Absorb it with sand, activated carbon or other inert materials, and transfer it to a safe place. Do not flush it into the sewer.

Large-scale leakage: Construct a dike or dig a pit for containment. Seal the drainage pipeline. Cover it with foam to inhibit evaporation. Use an explosion-proof pump to transfer it into a tank truck or a special collector, and recycle it or transport it to a waste disposal site for disposal.

Section 7 Handling and Storage

> Precautions for Handling

Operators must receive specialized training and strictly adhere to operating procedures.

Operations should be conducted in areas equipped with local or comprehensive ventilation systems.

Avoid contact with eyes and skin, and prevent inhalation of vapors.

Keep away from ignition sources and heat. Smoking is strictly prohibited in the workplace.

Use explosion-proof ventilation systems and equipment.

When filling containers, control the flow rate and ensure grounding to prevent static electricity accumulation.

Avoid contact with incompatible substances such as oxidizers (see Section 10 for incompatible materials).

Handle with care during transportation to prevent damage to packaging and containers.

Empty containers may retain hazardous residues.

Wash hands after use. Eating, drinking, or smoking in the workplace is prohibited.

Equip the workplace with appropriate types and quantities of fire-fighting equipment and emergency spill response tools.

> Conditions for safe storage, including any incompatibilities

Store in a cool and ventilated warehouse.

Keep separate from oxidants and edible chemicals. Do not store them together.

Keep the container sealed.

Keep away from ignition sources and heat sources.

Install lightning protection equipment in the warehouse.

The exhaust system should be equipped with grounding devices to eliminate static electricity.

Use explosion-proof lighting and ventilation facilities.

Do not use equipment and tools that are prone to generate sparks.

Equip the storage area with emergency leakage treatment equipment and suitable containment materials.

It is recommended to store at a temperature of 2-8℃ . It is sensitive to air.

Section 8 Exposure Controls/Personal Protection

> Control Parameters

Occupational Exposure Limit Values

Component	CAS	Numerical Value	Control Parameter	Foundation
DICARBONYLCYCLOPENTADIENYL COBALT	12078-25-0	PC-TWA	0.05 mg/m^3	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents
remarks		Group 2B - Suspected human carcinogen		

	PC-STEL	0.1 mg/m^3	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents
remarks	Group 2B - Suspected human carcinogen		

Monitoring Method

EN 14042 - Guidelines for procedures used to assess exposure to chemical or biological agents in the workplace air.

GBZ/T 160.1~GBZ/T160.81-2004 - Determination of toxic substances in workplace air (series of effective standards).

> Engineering Controls

It is recommended that the workplace be separated from other workplaces.

Operate in a closed environment to prevent leakage.

Strengthen ventilation.

Set up emergency evacuation passages and necessary risk - discharge areas.

Install automatic alarm devices and accident ventilation facilities.

Set up red - zone warning lines, warning signs, and Chinese warning instructions, and install a communication alarm system.

Provide safety showers and eyewash equipment.

> Personal Protection Equipment

Eye protection	Wear chemical goggles (complying with EU EN 166 or US NIOSH standards).
Hand protection	Wear rubber oil - resistant gloves.
Skin and body protection	When vapors/smoke are generated, wear a filtering half - mask respirator. During emergency rescue or evacuation, wear a self - contained breathing apparatus.
Respiratory protection	Wear work clothes resistant to the penetration of toxic substances.

Section 9 Physical and Chemical Properties

Appearance: Red liquid

Odor: No information available

Odor Threshold: No information available

pH: No information available

Melting Point/Freezing Point (℃): -22 ℃

Initial Boiling Point and Boiling Range (℃): 139-140℃

Flash Point (℃): 26 ℃ - closed up

Evaporation Rate: No information available

Flammability: No information available

Upper/lower explosive limits[%(v/v)]: Upper limit: No information available; Lower limit: No information available

Vapor Pressure (KPa): No information available

Relative Vapour Density(Air=1): No information available

Relative Density(Water=1): No information available

Solubility: No information available

n-Octanol/Water Partition Coefficient: No information available

Auto-Ignition Temperature(℃): No information available

Decomposition Temperature (℃): No

Kinematic Viscosity (mm^2/s): No information available

information available

Particle Characteristics: No information available

Critical Temperature(℃): No information available

Section 10 Stability and Reactivity

Reactivity	No data available.
Chemical Stability	The product is chemically stable under standard ambient conditions (room temperature).
Possibility of Hazardous Reactions	No data available.
Conditions to Avoid	Exposure to air may affect product quality. Heating.
Incompatible Materials	Strong oxidant.
Hazardous Decomposition Products	No data available.

Section 11 Toxicological Information

> Acute Toxicity

Acute toxicity estimate Oral - 100.1 mg/kg (Expert judgment)

Acute toxicity estimate Inhalation - 4 h - 3 mg/l - vapor (Expert judgment)

Acute toxicity estimate Dermal - 50.1 mg/kg (Expert judgment)

> Skin Corrosion/Irritation

No information available

> Serious Eye Damage/Irritation

No information available

> Respiratory or skin Sensitization

May cause allergic respiratory and skin reactions

> Germ Cell Mutagenicity

In vitro tests showed mutagenic effects which were not observed with in vivo test

> Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Suspected human carcinogens

> Reproductive Toxicity

Suspected of damaging fertility

> Specific Target Organ Toxicity - Single Exposure

No information available

> Specific Target Organ Toxicity - Repeated Exposure

No information available

> Aspiration hazard

No information available

> Additional Information

Carbonyl compounds are toxic due to decomposition yielding carbon monoxide.

Section 12 Ecological Information

> Acute Aquatic Toxicity

No information available

> Others

Persistence and degradability	No information available.
Bioaccumulative potential	No information available.
Mobility in soil	No information available.
Results of PBT and vPvB Assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Section 13 Disposal Considerations

> Waste treatment methods

Product	Hand over the remaining and non-recyclable solutions to a licensed company for disposal.
Contaminated Packaging	Return the container to the manufacturer or dispose of it in accordance with national and local regulations.
Precautions for Disposal	Before disposal, refer to relevant national and local regulations. For safety precautions for disposal personnel, refer to Section 8.

Section 14 Transport Information

Transporting Label



Marine pollutant	No
UN Number	2929
UN Proper Shipping Name	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
Transport Hazard Class	6.1(3)
Transport Subsidiary Hazard Class	None
Packaging group	II

Section15 Regulatory Information

> International chemical inventory

Name	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECL	AIIC	ENCS

DICARBONYLCYCLOPENTADIENYL COBALT	√	×	×	×	×	×	×	×	×

【EINECS】 European Inventory of Existing Commercial Chemical Substances

【TSCA】 Toxic Substances Control Act

【DSL】 Domestic Substances List

【IECSC】 Chinese Chemical Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

【KECL】 Korean Existing Chemicals List

【AIIC】 Australian Inventory of Industrial Chemicals

【ENCS】 Existing Chemicals Substances Inventory

Note

"√" Indicates that the substance included in the regulations

"×" That no data or included in the regulations

Section 16 Additional Information

Preparation Date Dec.1, 2022

Revision Date Dec.28, 2025

Revision Reason SDS Update Section

Disclaimer

The information provided in this Safety Data Sheet is correct based on the latest knowledge, information and concepts available to us. The information provided is intended only as a guide for safe operation, use, processing, storage, transportation, disposal and discharge and is not intended as a guarantee or specification of quality. This information is only used for the specific substance specified and may not be suitable for mixing with any other substance or in all cases, unless otherwise specified in the context.