SAFETY DATA SHEET

Prepared to GB/T 16483-2008 · GB/T 17519-2013 · GB 30000

东涂化学 DONGTU CHEMISTRY

4011

POLYESTER RESIN FOR POWDER COATINGS

HAZARD SUMMARY

NOT CLASSIFIED

NO SIGNAL WORD

Full classification, H-statements and precautionary statements in Section 3.

INITIAL PREPARATION	LAST REVISION	VERSION	ISSUE DATE	FILE NO.
2023/11/21	2025/7/14	V3	2025/8/2	DT-MSDS-EN-8/2/2025-4011

01 CHEMICAL AND ENTERPRISE IDENTIFICATION

CHEMICAL IDENTIFICATION:

Chemical name (Chinese)	Polyester resin
Chemical name (English)	Polyester resins
Trade name	4011
Intended / recommended use	Raw material for powder coatings
Molecular formula	Mixture, not applicable.
Structural formula	Mixture, not applicable.
Molecular weight	Mixture, not applicable.
CAS No.	Mixture, not applicable.

ENTERPRISE IDENTIFICATION:

Enterprise name	Chuzhou Dongtu Chemical New Materials Technology Co., Ltd.
Enterprise address	No. 6 Yihe Road, Yanhua Industrial Park, Dingyuan County, Chuzhou City, Anhui Province, China
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Website	www.dongtu-chem.com

Chemical and enterprise identification (continued)

EMERGENCY CONSULTATION TELEPHONE:

Chemical Registration Center, State Administration of Work Safety of China	China (mainland): (+86)532-8388-9090

RECOMMENDED USE AND RESTRICTIONS ON USE:

Recommended use of the product	Resin used in the manufacture of powder coatings.
Restrictions of the product	Industrial, professional and scientific use only; consult the manufacturer for other information.

02 COMPOSITION / INFORMATION ON INGREDIENTS

Substance / mixture	Mixture.
Other means of identification	See "Chemical identification" in Section 1.

This product is a saturated polyester resin, a polymer obtained by polycondensation of polybasic acids with polyhydric alcohols. To the best of the supplier's current knowledge, the finished product contains no component that requires reporting in this section at the applicable concentration and that is classified as hazardous to health or the environment.

A tin-based catalyst (stannous oxalate) is used in the polycondensation; residue in the finished product is below 0.1% expressed as tin, below the reporting threshold, and does not affect the classification of the mixture. The product does not contain organotin compounds.

Occupational exposure limits, where established, are given in Section 8.

03 HAZARDS IDENTIFICATION

Classification of the substance or mixture	Prepared in accordance with GB 13690-2009 and GB 30000-2013.
Emergency overview	Solid: off-white to pale yellow, flakes. Based on the available data, no known hazardous properties. Handling or processing may generate dust that can cause mechanical irritation of the eyes, skin, nose and throat.

GHS HAZARD CLASSES

Physical and chemical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.

GHS LABEL ELEMENTS:

Pictogram	Not applicable.

Hazards identification (continued)

Signal word	**No signal word.**
Hazard statement	No known significant effects or hazards.

■ PREVENTION

P264	Wash hands and face thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.

■ RESPONSE

P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P362+P364	Take off contaminated clothing and wash it before reuse.

■ STORAGE

P410+P403	Protect from sunlight. Store in a well-ventilated place.

■ DISPOSAL

P501	Dispose of contents / container in accordance with local / regional / national / international regulations.
Physical and chemical hazards	No data.
Health hazards	No known significant effects or hazards.
Environmental hazards	Based on the available data, no known hazardous properties.
Other hazards	This substance is not considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB). Handling or processing may generate dust that can cause mechanical irritation of the eyes, skin, nose and throat.

04 FIRST-AID MEASURES

DESCRIPTION OF FIRST-AID MEASURES:

Inhalation	Move the casualty to fresh air, keep at rest in a position comfortable for breathing. Get medical attention if symptoms persist.
Skin contact	Wash contaminated skin with plenty of water and soap. Get medical attention if irritation occurs.
Eye contact	Rinse immediately with plenty of water for at least 15 minutes, holding the eyelids open. Get medical attention if symptoms occur.

First-aid measures (continued)

Ingestion	If swallowed, rinse mouth with water. Get medical attention if symptoms occur.

POTENTIAL ACUTE HEALTH EFFECTS

Inhalation	Exposure above the recommended airborne contaminant concentration may cause irritation of the nose, throat and lungs.
Skin contact	No known significant effects or hazards.
Eye contact	Dust may cause eye irritation or a foreign-body sensation.
Ingestion	No known significant effects or hazards.

SIGNS / SYMPTOMS OF OVEREXPOSURE

Inhalation	Adverse symptoms may include: respiratory tract pain, coughing.
Skin	No specific data.
Eyes	Adverse symptoms may include: pain or irritation, tearing, redness.
Ingestion	No specific data.
Advice to rescuers	No action shall be taken involving any personal risk or without suitable training.
Notes to physician	Treat symptomatically. Contact a poison control centre immediately if large quantities have been ingested or inhaled. See Section 11.

05 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:

Suitable extinguishing media	Use foam, carbon dioxide (CO_2) or dry powder.
Unsuitable extinguishing media	Do not use water jet. A water jet may raise deposited dust and form a combustible dust cloud, spreading the fire.

SPECIAL HAZARDS:

Unusual fire / explosion hazards	No unusual hazard. The product is supplied in flake form and does not form a dust cloud under normal storage conditions; fine dust generated during processing or conveying may form an explosive mixture with air.
Hazardous thermal decomposition products	Combustion may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, black smoke, aldehydes and organic acids.
Special fire-fighting precautions	Fire-fighters should wear self-contained breathing apparatus (meeting MSHA / NIOSH or equivalent) and full protective clothing, and fight the fire from upwind at a safe distance. Prevent fire-fighting water from contaminating ground and surface water.

06 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate the surrounding area and keep unprotected and unnecessary personnel out. Do not touch or walk through spilled material. Eliminate all ignition sources; no flames, smoking or sparks in the danger area. Avoid breathing dust and provide adequate ventilation. Wear a suitable respirator if ventilation is inadequate, and suitable personal protective equipment.
Emergency responders	If special clothing is required to deal with the spillage, refer to Section 8 for information on suitable and unsuitable materials, and see the "Non-emergency personnel" section.
Environmental precautions	Avoid dispersal of spilled material and runoff, and prevent contact with and entry into soil, rivers, drains and sewers.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

Small spill	Move containers from the spill area. Vacuum or sweep up thoroughly and place in a labelled waste container. Do not flush to sewer.
Large spill	Move containers from the spill area and approach from upwind. Prevent entry into sewers, watercourses, basements or confined areas. Vacuum or sweep up thoroughly and place in a labelled waste container. Avoid raising dust and prevent it from spreading with the wind.
Preventive measures against secondary accidents	Prevent spilled material from entering sewers and basements.

Note: see Section 8 for personal protective equipment and Section 13 for waste disposal.

07 HANDLING AND STORAGE

HANDLING:

Protective measures	Wear suitable personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid release to the environment. Prevent dust accumulation. Use only with adequate ventilation; wear a suitable respirator if ventilation is inadequate. Ground and bond containers and equipment when transferring material to dissipate static electricity generated during conveying.
General occupational hygiene	Eating and smoking shall be prohibited in the areas where this material is handled, stored and processed. Workers should wash hands before eating and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

STORAGE:

Safe storage conditions	Store below 30 °C (86 °F). Store in accordance with local regulations. Store separately from oxidising substances; do not store together. Avoid direct sunlight, keep away from heat and ignition sources, and store in a cool, dry and well-ventilated place.

Handling and storage (continued)

Packaging materials	Use the packaging materials supplied by the manufacturer; other containers or packaging materials are not recommended, to prevent contamination.
Remarks	Avoid raising dust.

08 EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

Occupational exposure limits	No data.
Biological limit values	No data.
Monitoring methods	EN 14042 Workplace atmospheres — Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. GBZ/T 160.1 to GBZ/T 160.81 Determination of toxic substances in workplace air (series standards). WS/T 52 and WS/T 110, Annex A.

ENGINEERING CONTROLS:

Engineering controls	Use only with adequate ventilation. If dust, mist, gas, vapour or fume is generated during use, use process enclosure, local exhaust ventilation or other engineering controls to keep airborne contaminant concentrations below the recommended or statutory limits. Process controls should also keep gas, vapour or dust concentrations below the exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory protection	If the risk assessment indicates that it is necessary, use suitable respiratory protection with a particulate filter that meets the relevant standard. Respirator selection must be based on the known or anticipated exposure level, the hazard of the product and the safe working limits of the selected respirator.
Eye / face protection	Safety goggles with side shields.
Skin and body protection	Dust-proof clothing is recommended.
Hand protection	If the risk assessment indicates that it is necessary, always wear chemical-resistant, impervious gloves that meet the relevant standard when handling the product.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the toilet and at the end of the working period. Remove contaminated clothing using appropriate techniques and wash before reuse. Ensure that eyewash stations and safety showers are close to the workstation.
Remarks	All chemical protective gloves are suitable for preventing skin contact; glove selection should address the physical protection of the hands.

09 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Off-white to pale yellow solid flakes or granules.
Odour	Odourless.
Odour threshold	No data.
pH	Not applicable.
Melting point / freezing point (°C)	No data.
Softening point (°C)	No data.
Boiling point / initial boiling point and range (°C)	No data.
Flash point (°C)	> 350 (closed cup).
Evaporation rate	No data.
Flammability (solid or gas)	Not flammable, but will burn on prolonged exposure to flame or high temperature.
Upper and lower explosive limits [% (v/v)]	No data.
Vapour pressure (kPa)	No data.
Vapour density (air = 1)	No data.
Relative density (water = 1)	1.2
Density (g/cm³)	1.2 (23 °C)
Bulk density	600 to 750 kg/m³
Solubility	Partially soluble in: diethyl ether, acetone. Insoluble in: cold water, hot water, methanol, n-octanol.
Solubility in water (mg/L)	No data.
Octanol / water partition coefficient	No data.
Auto-ignition temperature (°C)	> 350
Decomposition temperature (°C)	> 350
Minimum ignition temperature (°C)	> 350
Conductivity	No data.
Molecular weight	Not applicable.
Unstable temperature	No data.
Minimum ignition energy	No data.

Physical and chemical properties (continued)

VOC content	No data.
Critical pressure	No data.
Critical temperature	No data.
Kinematic viscosity	Not applicable.

10 STABILITY AND REACTIVITY

STABILITY:

Chemical stability	The product is stable. Stable under the recommended storage and handling conditions (see Section 7).
Hazardous reactions	No hazardous reactions under normal conditions of storage and use.
Conditions to avoid	Avoid generating dust during handling and avoid all ignition sources (sparks or flames). Take precautions against static discharge. To prevent fire or explosion, ground and bond containers and equipment when transferring material to dissipate static electricity generated during conveying. Prevent dust accumulation.
Incompatible materials	Reactive or incompatible with: oxidising substances.
Hazardous decomposition products	No hazardous decomposition products under normal conditions of storage and use.

11 TOXICOLOGICAL INFORMATION

Acute toxicity	No data.
Skin corrosion / irritation	No known significant effects or hazards.
Serious eye damage / irritation	May cause irritation of the eye mucosa.
Respiratory or skin sensitisation	No data.
Germ cell mutagenicity	No data.
Carcinogenicity	No data.
Reproductive toxicity	No data.
STOT — single exposure	No data.
STOT — repeated exposure	No data.
Aspiration hazard	No data.

For more detailed information, see Section 4 (First-aid measures) and Section 8 (Exposure controls / personal protection).

12 ECOLOGICAL INFORMATION

Ecotoxicity	No data.
Persistence and degradability	No data.
Bioaccumulative potential	No data.
Mobility in soil	Soil / water partition coefficient (Koc): no data.

RESULTS OF PBT AND VPVB ASSESSMENT:

PBT	Not applicable.
vPvB	Not applicable.
Other adverse environmental effects	No known significant effects or hazards.

13 DISPOSAL CONSIDERATIONS

Waste chemicals	Avoid or minimise waste generation wherever possible. Disposal of the product, solutions and by-products must comply with environmental protection, waste disposal and local regulations. Residues and non-recyclable waste shall be handled by a licensed waste contractor. Waste must not be discharged to sewers without treatment unless fully compliant with the requirements of the competent authorities.
Contaminated packaging	Recycle; consider incineration or landfill only where recycling is not feasible. Empty containers or liners may retain product residues; dispose of the product and its container in a safe manner. Avoid dispersal of spilled material and runoff, and prevent contact with and entry into soil, rivers, drains and sewers.
Disposal precautions	See Sections 7 and 8 for relevant information.
Other information	To the best of the supplier's knowledge, this product is not regarded as hazardous waste.

14 TRANSPORT INFORMATION

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	—	—	—
UN hazard class	—	—	—
Packing group	—	—	—
Marine pollutant (yes / no)	No	No	No
Environmental hazard	No	No	No
Other information	—	—	—

Transport information (continued)

Special precautions for users	Within the user's premises, always transport in sealed containers kept upright and secured. Ensure that transport personnel are aware of the measures to be taken in the event of an accident or spill.
Bulk transport according to MARPOL 73/78 Annex II and the IBC Code	No data.

15 REGULATORY INFORMATION

THE COMPONENTS OF THIS PRODUCT ARE NOT LISTED IN THE FOLLOWING INVENTORIES:

- A. Catalogue of Occupational Disease Hazard Factors (2015 Edition), Announcement No. 92 of 2015, NHFPC.
- B. Catalogue of Hazardous Chemicals (2022 Adjusted Edition), Announcement No. 8 of 2022, MEM and others.
- C. Catalogue of Toxic Chemicals Subject to Strict Import and Export Control in China, Announcement No. 60 of 2019, MEE.
- D. Catalogue of Hazardous Chemicals under Key Supervision (Batches 1 and 2), Notices No. 95 of 2011 and No. 12 of 2013, SAWS.
- E. Regulations on the Administration of Precursor Chemicals, State Council Decree No. 445, as amended by Decree No. 666 of 2016.
- F. Controlled Varieties of Non-medicinal Narcotic Drugs and Psychotropic Substances.
- G. Catalogue of Hazardous Chemicals under Special Control, Announcement No. 1 of 2020, MEM and others.
- H. List of Priority Control Chemicals (First and Second Batches), Announcements No. 83 of 2017 and No. 47 of 2020, MEP.
- I. Catalogue of Explosive Precursor Chemicals (2017 Edition), MPS announcement of 11 May 2017.
- J. Catalogue of Hazardous Chemicals Prohibited from Inland Waterway Transport (2019 Edition), MOT announcement of 5 July 2019.
- K. List of Key Controlled New Pollutants (2023 Edition), Announcement No. 28 of 29 December 2022, MEE, MIIT and others.

INTERNATIONAL CHEMICAL INVENTORIES:

AIIC	Australian Inventory of Industrial Chemicals: listed.
DSL	Canadian Domestic Substances List: listed.
EINECS	European Inventory of Existing Commercial Chemical Substances: listed.
ENCS	Japanese Existing and New Chemical Substances Inventory: listed.
IECSC	Inventory of Existing Chemical Substances in China: listed.
KECL	Korean Existing Chemicals List: listed.
NCI	Vietnamese National Chemical Inventory: listed.
NZIoc	New Zealand Inventory of Chemicals: listed.
PICCS	Philippine Inventory of Chemicals and Chemical Substances: listed.
TCSI	Taiwan, China Chemical Substances Inventory: listed.
TSCA	United States TSCA Inventory: listed.

Regulatory information (continued)

THE COMPONENTS OF THIS PRODUCT ARE NOT LISTED IN THE FOLLOWING CONVENTION SCHEDULES:

- A. Chemical Weapons Convention, Schedules 1, 2 and 3.
- B. Montreal Protocol (Annexes A, B, C and E).
- C. Stockholm Convention on Persistent Organic Pollutants.
- D. Rotterdam Convention on the Prior Informed Consent (PIC) Procedure.
- E. UNECE Aarhus Protocol on Persistent Organic Pollutants and Heavy Metals.

16 OTHER INFORMATION

REVISION INFORMATION:

Reason for revision	Classification re-assessed in accordance with GB 30000; component disclosure policy adjusted; residual liquid-template content removed; Sections 2, 3, 4, 5, 6, 9, 11, 12 and 15 revised.
Version	V5
Issue date	25 November 2026
Previous issue date	1 May 2026 (V4)

REFERENCES:

- International Programme on Chemical Safety (IPCS): International Chemical Safety Cards (ICSC), https://www.ilo.org/dyn/icsc/showcard.home.
- International Agency for Research on Cancer (IARC), https://www.iarc.who.int.
- OECD eChemPortal, https://www.echemportal.org.
- CAMEO Chemicals database (NOAA), https://cameochemicals.noaa.gov.
- US National Library of Medicine: PubChem / ChemIDplus, https://pubchem.ncbi.nlm.nih.gov.
- US Environmental Protection Agency: Integrated Risk Information System (IRIS), https://iris.epa.gov.
- US Department of Transportation: Emergency Response Guidebook (ERG), https://www.phmsa.dot.gov/hazmat/library/erg.
- GESTIS Substance Database (Germany), https://gestis.dguv.de.
- European Chemicals Agency (ECHA): registered substance information, https://echa.europa.eu.

Other information (continued)

ABBREVIATIONS:

- CAS — Chemical Abstracts Service number
- EC — European Community number
- REACH — EU Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
- TSCA — US Toxic Substances Control Act Inventory
- PC-TWA — permissible concentration – time-weighted average
- PC-STEL — permissible concentration – short-term exposure limit
- DNEL — derived no-effect level
- PNEC — predicted no-effect concentration
- IARC — International Agency for Research on Cancer
- ACGIH — American Conference of Governmental Industrial Hygienists
- LC50 — median lethal concentration
- LD50 — median lethal dose
- EC50 — median effective concentration
- NOEC / NOAEC — no observed effect concentration / no observed adverse effect concentration
- PBT — persistent, bioaccumulative and toxic
- vPvB — very persistent and very bioaccumulative
- LogPow — octanol / water partition coefficient
- BCF — bioconcentration factor
- IMDG — International Maritime Dangerous Goods Code
- IATA — International Air Transport Association
- UN — United Nations
- OECD — Organisation for Economic Co-operation and Development

DISCLAIMER:

This safety data sheet is prepared in accordance with GB/T 16483 and GB/T 17519. The data are derived from authoritative international databases and information submitted by the enterprise; other information is based on the knowledge currently available to the company. We endeavour to ensure the accuracy of the information, but because of the diversity of sources and the limits of our knowledge, this document is provided for reference only. Users should judge the reasonableness of the information for their intended purpose. We accept no liability for any damage arising from the handling, storage, use or disposal of this product.

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