



1. Identification of the substance or mixture and of the supplier

1.1 Product identifier

GHS product identifier	JRCure TPO
Other means of identification	See section 3

1.2 Recommended use of the chemical and restrictions on use

Recommended use	Additives, UV Photoinitiator.
Recommended Restrictions	Not for family or other use.

1.3 Supplier's details

Supplier(Manufacturer)	TIANJIN JIURI NEW MATERIALS CO.,LTD
Address	C-5/6, Vision Hill, No.1 Gonghua Road, Huayuan Hi-tech Park, Tianjin, China.
Post code	300384
Telephone	+86-22-23811185
Fax	+86-22-87186899
Contact person(E-mail)	Carrie Wu (rui.wu@jiurichem.com)

1.4 Emergency phone number

Emergency phone Number	+86-22-58330700
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2. Hazards identification

2.1 GHS of the substance or mixture

Skin Sensitization	Category 1B
Reproductive toxicity	Category 1B
Hazardous to the aquatic environment, long-term hazard	Category 2

2.2 GHS label elements, including precautionary statements

2.2.1 Hazard pictograms and signal word

Hazard pictograms	
Signal word	Danger

2.2.2 Hazard statement(s)

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H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child (Specific effect: testes atrophy (fertility), bent limb bones (unborn child)).
H411	Toxic to aquatic life with long lasting effects.

2.2.3 Precautionary statement(s)

Prevention	P203:Obtain, read and follow all safety instructions before use. P261:Avoid breathing dust/fume/gas/mist/vapours/spray. P272:Contaminated work clothing must not be allowed out of the workplace. P273:Avoid release to the environment. P280:Wear protective gloves/ protective clothing/ eye protection/ face protection/hearing protection.
Response	P302+P352:IF ON SKIN: Wash with plenty of water/... P318:IF exposed or concerned, get medical advice. P321:Specific treatment. P333+P317:If skin irritation or rash occurs: Get medical help. P362+P364:Take off contaminated clothing and wash it before reuse. P391:Collect spillage.
Storage	P405:Store locked up.
Disposal	P501:Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in classification

Other hazards which do not result in classification	Not applicable.
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3. Composition/Information on Ingredients

Substance/Mixture	Substance
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Ingredient(s):

Chemical Name	CAS NO.	EC NO.	Concentration
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	278-355-8	≥99.0

4. First-aid measures

4.1 Description of necessary measures

Inhalation	If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.
Skin contact	Wash thoroughly with soap and water.
Eye contact	Wash affected eyes for at least 15 minutes under running water with eyelids held

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	open.
Ingestion	Rinse mouth immediately and then drink plenty of water, seek medical attention.

4.2 Most important symptoms/effects, acute and delayed

1	See section 11.
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4.3 Indication of immediate medical attention and special treatment needed, if necessary

1	Treat symptomatically, no known specific antidote.
2	Symptoms may be delayed.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Dry powder, foam.
Unsuitable extinguishing media	Carbon dioxide.

5.2 Specific hazards arising from the chemical

1	Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions.
2	Combustion of vapor and liquid may produce carbon monoxide, carbon dioxide and other hazardous gases.
3	Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions).

5.3 Special protective equipment and precaution for fire-fighters

1	Alert Fire Brigade and tell them location and nature of hazard.
2	Wear self-contained breathing apparatus for firefighting if necessary.
3	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used.
4	In case of fire in the surroundings, keep containers cool by spraying with water.
5	Eliminate all ignition sources if safe to do so.
6	Uninvolved persons should evacuate to a safe place.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Use personal protective equipment.
2	Remove all sources of ignition. Ensure adequate ventilation. Take precautionary measures against

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	static discharges.
3	For personal protection see section 8.
4	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid breathing vapors and contacting with skin and eyes.

6.2 Environmental precautions

1	Do not let product enter drains. Discharge into the environment must be avoided.
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6.3 Methods and materials for containment and cleaning up

1	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
2	Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

1	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
2	Keep away from heat/sparks/open flames/ hot surfaces.
3	For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed in a dry, cool and well-ventilated place.
2	Keep away from heat/sparks/open flames/ hot surfaces.
3	Store away from incompatible materials such as oxidizing agents and other incompatible materials.
4	Store away from foodstuff containers.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values:

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide CAS NO.:75980-60-8	Australia	-	-	-	-
	Denmark	-	-	-	-
	Germany (AGS)	-	-	-	-
	Ireland	-	-	-	-
	South Korea	-	-	-	-
	USA(OSHA)	-	-	-	-



Biological limit values | No information available.

8.2 Appropriate engineering controls

1	Handle in accordance with good industrial hygiene and safety practice.
2	Ensure adequate ventilation, especially in confined areas.
3	Ensure that eyewash stations and safety showers are close to the workstation location .

8.3 Personal protection equipment

General requirement	
Eye/face protection	Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).
Hand protection	Protective gloves (such as butyl rubber), approved by EN 374(EU).
Respiratory protection	Use appropriate respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended Filter type: low boiling organic solvent, Type AX, Brown, conforming to EN371.
Body protection	Wear fire/flame resistant/retardant clothing and antistatic boots.

9. Physical and chemical properties

Appearance	Yellow crystal
Odor	No data available
Odor threshold	No data available
Melting point/freezing point	91.0-95.0 °C
Initial boiling point and boiling range	>200 °C.
Flammability(solid, gas)	Non flammable
Upper/lower explosive limits	No data available
Flash point	No data available
Auto-ignition temperature	No self-heating detected up to 400 °C.
Decomposition temperature	>200 °C.
pH	No data available
Viscosity	No data available
Water Solubility	11.9 mg/l at 20 °C (Column elution method); 3.4 mg/l at 20 °C (Flask method)
n-octanol/water partition coefficient	Log Kow (Pow): 3.1 at 23 °C and pH = 6.4
Vapor pressure	0 Pa at 25°C
Relative density	1.218 at 20°C
Vapor density	No data available.
Evaporation rate	No data available



Molecular formula	C ₂₂ H ₂₁ O ₂ P
Molecular weight (g/mol)	348.4

10. Stability and reactivity

Reactivity	No hazardous reactions if stored and handled as prescribed/indicated. Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.
Chemical stability	The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reaction	In spite of the dedusting carried out for reasons of industrial health the product resp. the fine dust of the product is capable of dust explosion.
Conditions to avoid	Incompatible materials. Avoid dust formation. Avoid deposition of dust. Avoid sources of ignition.
Incompatible materials	Substances to avoid: strong acids, strong bases, strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products if stored and handled as prescribed/indicated. In case of fire may release toxic gases/vapours, e.g. carbon monoxide (CO), carbon dioxide (CO ₂), phosphorous compounds.

11. Toxicological information

Acute toxicity	
LD₅₀(oral,Rat):	>5000 mg/kg
LD₅₀(dermal,Rat):	>2000 mg/kg
LC₅₀(inhalation,Rat):	No data available.
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	May damage fertility or the unborn child (Specific effect: testes atrophy (fertility), bent limb bones (unborn child)).

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STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

12. Ecological information

Acute (short-term) toxicity	
LC50(96h, Fish):	1.4 mg/L
EC50(48h, Crustacea):	3.53 mg/L
EC50(72h, Algae/aquatic plants):	>2.01 mg/L
Chronic (long-term) toxicity	
NOEC(Fish):	Not available
NOEC(Crustacea):	Not available
NOEC(Algae/aquatic plants):	1.56 mg/L (72h)
Persistence and degradability	The registered substance is not readily biodegradable (0% at 28 days) , and has a half-life (first order) in freshwater of 16.8 days.
Bioaccumulative potential	Based on the measured BCF values, a significant bioaccumulation potential is not to be expected.
Mobility in soil	Koc at 20 °C: 784.8. Based on the low log octanol water partition coefficient, the substance can be expected to have a low potential for adsorption.
Other adverse effects	Toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
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14. Transport information

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
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UN number	3077	3077	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,SOLID, N.O.S. Diphenyl(2,4,6-trimethyl benzoyl)phosphine oxide	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,SOLID, N.O.S. Diphenyl(2,4,6-trimethyl benzoyl)phosphine oxide	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,SOLID, N.O.S. Diphenyl(2,4,6-trimethyl benzoyl)phosphine oxide
Transport hazard class(es)	9	9	9
Packing group, if applicable	III	III	III
Environmental hazards	Marine pollutant: YES	Marine pollutant: YES	Marine pollutant: YES
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to IMO instruments	IBC08	IBC08	IBC08

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question:

15.1.1 International chemical inventory

EINECS/ELINCS/NLP	Listed
TSCA	Listed
DSL	Listed
IECSC	Listed
NZLoC	Listed
PICCS	Listed
KECI	Listed
ENCS	Listed
AIC	Listed

16. Other information

16.1 Information on revision

Creation Date	2015/05/29
Revision Date	2023/07/24
Reason for revision	Modified according to the requirements of UN GHS (9th revision).

16.2 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:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

[4]CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

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[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/>.

16.3 Abbreviations and acronyms

CAS –Chemical Abstracts Service

TSCA- United States Toxic Substances Control Act Inventory

EINECS - European Inventory of Existing Commercial Chemical Substances

DSL - Canadian Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

NZIOC -New Zealand Inventory of Chemicals

IECSC- China Inventory of Existing Chemical Substance

KECI- Existing and Evaluated Chemical Substances

PC-STEL- Short term exposure limit

PC-TWA - Time Weighted Average

DNEL - Derived No Effect Level

IARC - International Agency for Research on Cancer

RPE - Respiratory Protective Equipment

PNEC –Predicted No Effect Concentration

LC₅₀ - Lethal Concentration 50%

LD₅₀- Lethal Dose 50%

NOEC -No Observed Effect Concentration

EC₅₀ - Effective Concentration 50%

PBT - Persistent, Bioaccumulative, Toxic

POW - Partition coefficient Octanol:Water

BCF - Bioconcentration factor (BCF)

vPvB - very Persistent, very Bioaccumulative

CMR - Carcinogens, mutagens or substances toxic to reproduction

16.4 Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 9th 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.