SAFETYDATA SHEET

JADEWIN UV 234

1 IDENTIFICATION

Product Identifier

Product Name: JADEWIN UV 234

Recommended Use and Restrictions of Use

Recommended Use: Light stabilizer for plastics, coatings, and other materials

Restrictions of Use: This product is not intended for use as a direct additive in foods, drugs, cosmetics, pesticides, or in products for which prolonged contact with mucous membranes or abraded skin, or implantation within the human body is specifically intended.

Name, Address, and Telephone Number of the Responsible Party

· ***Manufacturer/Supplier:***

QINGDAO JADE NEW MATERIAL TECHNOLOGY CO.,LTD

Address: Room 411, Building2,No318 Longshui Road,
Licang District,Qingdao, Shandong Province , China.

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2 HAZARD(S) IDENTIFICATION

Classification of the Substance

This product is classified as hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR §1910.1200) and WHMIS 2015.

Hazard(s): SENSITIZATION – SKIN (CATEGORY 1)
SPECIFIC TARGET ORGAN TOXICITY – REP. EXPOSURE (CATEGORY 2)
COMBUSTIBLE DUST (WHMIS CATEGORY 1)

Signal Word, Hazard Statements, Symbols, & Precautionary Statements

Signal Word: WARNING

Hazard Statement(s): May cause an allergic skin reaction
May cause damage to organs (lymph system) through prolonged or repeated exposure
May form combustible dust concentrations in air

Hazard Pictogram(s):

Precautionary Statements(s):

- Do not breathe dust. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.
- IF ON SKIN: Wash with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use.
- Get medical advice/attention if you feel unwell.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards Not Otherwise Classified (HNOC)

Physical HNOC	Not applicable (N/A)
Health HNOC	Not applicable (N/A)

Other Classifications

NFPA

HMIS®

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	0

* Indicates possible chronic health effects.

3 COMPOSITION / INFORMATION ON INGREDIENTS

This product contains the following component(s) classified as health hazards according to the 2012 OSHA Hazard Communication Standard (29 CFR §1910.1200) and WHMIS 2015.

Chemical Name	CAS No.	Wt. %
1,3,5-Triazine-2,4,6-triamine, N2,N2''-1,2-ethanediylbis[N2-[3-[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino]-1,3,5-triazin-2-yl]amino]propyl]-N',N"-dibutyl-N',N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)-	106990-43-6	75-95

Non-Hazardous Components

Chemical Name	CAS No.	Wt. %
Butanedioic acid, 1,4−dimethyl ester, polymer with 4−hydroxy−2,2,6,6−tetramethyl−1−piperidineethanol	65447-77-0	5-25

4 FIRST AID MEASURES

Description of Necessary Measures

Eyes	In case of contact with eyes, rinse immediately with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Get medical attention if irritation occurs.
Inhalation	Remove to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration and get immediate medical attention. Get medical attention if respiratory irritation occurs or if person feels unwell.
Skin	Wash immediately with plenty of soap and water. Get medical attention if irritation or rash occurs. Take off contaminated clothing and wash it before reuse.

Ingestion	Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have person lean forward to reduce the risk of aspiration. Get medical attention immediately.

Most Important Symptoms / Effects, Acute and Delayed

Eyes	May cause minor eye irritation.
Inhalation	May be harmful if inhaled. Dust may cause respiratory irritation.
Skin	May cause an allergic skin reaction characterized by rash or irritation after repeated exposures. May cause minor skin irritation.
Ingestion	May be harmful if swallowed. Repeated or prolonged ingestion may cause effects on the lymph system.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician: May aggravate pre-existing conditions of the skin and lymph system.

5 FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media

Suitable	Use water or carbon dioxide (CO_2) to extinguish fire.
Unsuitable	None known

Specific Hazards Arising from the Chemical

Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Burning produces heavy smoke, and may produce hazardous combustion products, including carbon monoxide, carbon dioxide, oxides of nitrogen, and other toxic gases.

Special Protective Equipment and Precautions for Firefighters

Standard protective equipment for fighting chemical fires should be used, including self contained breathing apparatus (SCBA) and full fire fighting turn-out gear (full Bunker gear).

Caution: CO_2 used for extinguishing will displace air in confined spaces and may cause an oxygen deficient atmosphere.

Move undamaged containers from the immediate hazard area if it can be done safely.

Water used for extinguishing a fire must be prevented from draining into sewers or being released to the environment.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Avoid personal contact. Wear personal protective equipment (See Section 8: Exposure Controls / Personal Protection). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition and do not breathe dust.

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (*i.e.* clearing dust surfaces with compressed air). Non-sparking tools should be used.

Environmental Precautions

Do not release to the environment. Do not allow substance or water used for washing to enter into surface water or drains. Collect spillage.

Methods and Materials for Containment and Cleaning Up
Remove all sources of ignition. Sweep up and collect material into suitable containers for reuse or disposal (See Section 13: Disposal Considerations). Use explosion-proof equipment for cleanup that has been designed for use with combustible dusts.

7 HANDLING AND STORAGE

Precautions for Safe Handling
Do not breathe airborne dust, and avoid contact with eyes and skin. Use only with adequate ventilation. Do not eat, drink, or use tobacco products while working.

May form combustible dust concentrations in air. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Conditions for Safe Storage, Including Any Incompatibilities
Keep container tightly closed in a cool, dry, and well-ventilated place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Control Limits

1,3,5-Triazine-2,4,6-triamine, N2,N2''-1,2-ethanediylbis[N2-[3-[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino]-1,3,5-triazin-2-yl]amino]propyl]-N',N”-dibutyl-N',N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)- CAS No. 106990-43-6	Not applicable (N/A)
Butanedioic acid, 1,4−dimethyl ester, polymer with 4−hydroxy−2,2,6,6−tetramethyl−1− piperidineethanol CAS No. 65447-77-0	Not applicable (N/A)

Appropriate Engineering Controls
Work in well ventilated areas. The use of local exhaust ventilation is recommended to control air contaminants. Provide mechanical ventilation for confined spaces. Use explosion-proof ventilation equipment. Use mechanical handling to reduce human contact with materials.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (*i.e.* there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

Individual Protective Measures, Such as Personal Protective Equipment

General Hygiene — Do not breathe airborne dust. Avoid contact with eyes and skin. Wash thoroughly after handling and before eating, drinking, or using tobacco products. Safety shower should be available in the

	immediate area. Contaminated work clothing must not be allowed out of the workplace. Wash contaminated clothing before reuse.
Eye/Face Protection	Wear safety glasses with side shields or safety goggles.
Skin Protection	Wear protective gloves impervious to the conditions of use and protective clothing. Recommended materials for protective gloves include PVC, rubber, and other plastics.
Respiratory Protection	Wear NIOSH-approved respiratory protection if exposure to airborne dust is possible and in non-routine or emergency situations.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	WHITE TO LIGHT YELLOW CRYSTAL SOLID
Odor	slight aminic odor
Odor Threshold	no information available
Physical State	solid
pH value	no information available
Melting (Softening) Range	115-150^{o}C
Boiling Point	> 400^{o}C (extrapolated)
Flash Point	> 275^{o}C
Evaporation Rate	no information available
Flammability	no information available
Upper Flammability Limit	no information available
Lower Flammability Limit	no information available
Vapor Pressure	9.6 x 10^{-11} Pa (25^{o}C, extrapolated)
Vapor Density	no information available
Specific Gravity	1.03
Solubility in water	< 2 mg/L (20^{o}C)
Partition Coefficient (octanol/water)	no information available
Autoignition Temperature	no information available
Decomposition Temperature	no information available
Viscosity	not applicable (N/A)

10 STABILITY AND REACTIVITY

Reactivity
No reactivity hazards known under normal ambient and anticipated storage and handling conditions.

Chemical Stability
Stable under normal ambient and anticipated storage and handling conditions.

Possibility of Hazardous Reactions
None known

Conditions to Avoid
Electrostatic discharge and ignition sources, formation of small particles (combustible dust)

Incompatible Materials
Strong oxidizing agents, strong reducing agents, strong acids, strong bases

Hazardous Decomposition Products
Burning may produce heavy smoke and hazardous combustion products, including carbon monoxide, carbon dioxide, oxides of nitrogen, and other toxic gases.

11 TOXICOLOGICAL INFORMATION

Signs and Symptoms of Overexposure, Acute and Delayed

Eyes	May cause minor eye irritation.
Inhalation	May be harmful if inhaled. Dust may cause respiratory irritation.
Skin	May cause an allergic skin reaction characterized by rash or irritation after repeated exposures. May cause minor skin irritation.
Ingestion	May be harmful if swallowed. Repeated or prolonged ingestion may cause effects on the lymph system.
Target Organ Effects	Target organs: lymph system
Chronic Effects	Repeated or prolonged ingestion may cause effects on the lymph system.

Acute Toxicity

Oral	$ATE_{mixture} > 5{,}000$ mg/kg (based on components)
Inhalation	no information available
Dermal	no information available

Skin Corrosion / Irritation
Not classified as a skin irritant based on available data for the components.

Eye Damage / Irritation
Not classified as an eye irritant based on available data for the components.

Sensitization

Respiratory Sensitization	no information available
Skin Sensitization	Classified as sensitizing (Category 1) based on available data for the components and the concentrations of composition:
CAS No. 106990-43-6	*Classified as sensitizing (Category 1A) based on test results in guinea pigs (OECD 406).*

Germ Cell Mutagenicity
Not classified as mutagenic based on available data for the components (*in vitro* and *in vivo*).

Carcinogenicity
Not classified as carcinogenic based on available data for the components and/or structural analogues. None of the components in this product at concentrations greater than 0.1% are listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

Reproductive Toxicity
Not classified as toxic to reproduction based on available data for the components and/or structural analogues.

Target Organ Toxicity

Single Exposure	no information available
Repeat/Prolonged Exposure	Classified as STOT – RE (Category 2) based on available data for the components and the concentrations of composition:

CAS No. 106990-43-6	*Classified as STOT – RE (Category 2) based on the results of a 90-day feeding study in rats (OECD 408). Effects on the lymph system were observed.*

Aspiration Hazard
no information available

12 ECOLOGICAL INFORMATION

Ecotoxicity

Acute toxicity - fish

CAS No. 106990-43-6	*LC_{50} (96 hr) > 119 mg/L (OECD 203)*
CAS No. 65447-77-0	*LC_{50} (96 hr) > 100 mg/L (OECD 203)*

Acute toxicity - algae

CAS No. 106990-43-6	*EC_{50} (72 hr) = 1.2-6.5 mg L (OECD 201)*
CAS No. 65447-77-0	*EC_{50} (72 hr) > 100 mg/L (OECD 201)*

Acute toxicity - invertebrates

CAS No. 106990-43-6	*Daphnia magna, EC_{50} (48 hr) = 7.3 mg/L (OECD 202)*
CAS No. 65447-77-0	*no information available*

Acute toxicity - bacteria

CAS No. 106990-43-6	*no information available*
CAS No. 65447-77-0	*Activated sludge, EC_{50} (3 hr) > 100 mg/L (OECD 209)*

Toxic to aquatic life with long lasting effects.

Persistence and Degradability

CAS No. 106990-43-6	*Not biodegradable*
CAS No. 65447-77-0	*Not readily biodegradable*

Bio-accumulative Potential
Not expected to be bio-accumulative based on available data for the components.

Mobility in Soil
no information available

Other Adverse Effects
no information available

13 DISPOSAL CONSIDERATIONS

Recover or recycle if possible.

Disposal of product and contaminated packaging should be in accordance with applicable local, regional, national, and international laws and regulations. Local regulations may be more stringent than regional or national requirements.

14 TRANSPORT INFORMATION

UN Number
3077

UN Proper Shipping Name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Technical Name
Hindered amine derivative

Transport Hazard Class(es)
9

Packing Group
III

Environmental Hazard(s)
DOT: This product is not classified as a Marine Pollutant under 49 CFR §171.8.
IMDG: Classified as a Marine Pollutant according to IMDG criteria.

Transport in Bulk
no information available

Other Information
DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft.

15 REGULATORY INFORMATION

Inventory Status

United States (TSCA)	All components listed on the inventory or exempt from listing
Canada (DSL)	All components listed on the inventory or exempt from listing

USA Federal SARA Title III Rules

Section 302	No components of this material are subject to the reporting requirements of SARA Title III, Section 302.
Section 304	No components of this material are regulated under SARA Title III, Section 304 as extremely hazardous chemicals for emergency release notification (“CERCLA” list).
Section 313	This material does not contain any component(s) listed on the Section 313 Toxic Chemical List.
Section 311/312 Hazards:	Acute health hazard, chronic (delayed) health hazard

California Proposition 65
WARNING! This product contains a component listed under Proposition 65 – Chemicals Known to the State to Cause Cancer or Reproductive Toxicity.

Massachusetts Right to Know Law
This product contains no component(s) listed in the Massachusetts Substance List for Right to Know Law.

New Jersey Right to Know Program
This product contains no component(s) listed on the 2010 New Jersey Right to Know Hazardous Substance List.

Pennsylvania Right to Know Law
This product contains no component(s) listed on the Pennsylvania Department of Labor and Industry Hazardous Substance List.

16 OTHER INFORMATION

Revision Date
26 May 2015

Reasons for Revision
New version compliant with 2012 OSHA HCS (29 CFR §1910.1200) and WHMIS 2015

Additional Information
Refer to NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*, for safe handling.