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**SECTION 1: Identification of the substance/mixture and of the company**

**Product Code:** PowerStab™ 3529  
**Product name:** 1,6-Hexanediamine, N,N'-bis(2,2,6,6-tetramethyl-4-piperidinyl)-, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine  
**CAS-No.:** 193098-40-7  
**Manufacturer:** Tintoll Performance Materials Co.,Ltd.  
**Post Address:** A703,No.50 Jialingjiang East St,Nanjing,China  
Email: SDS@TinToll.com  
**Emergency Telephone Number:** +86-25-8468-0091  
**Use of Substance:** For Industrial Use

**SECTION 2: Hazardous identification****GHS Classification**

Combustible Dust

Acute Toxicity (Oral) Hazard Category 4

Acute Toxicity (Inhalation) Hazard Category 4

Specific Target Organ Toxicity - Repeated Exposure Hazard Category 2

Serious Eye Damage / Eye Irritation Hazard Category 2A

Aquatic Environment Acute Hazard Category 1

Aquatic Environment Chronic Hazard Category 1

**LABEL ELEMENTS****Signal Word**

Warning

**Hazard Statements**

May form combustible dust concentrations in air

Harmful if swallowed

Harmful if inhaled

May cause damage to organs through prolonged or repeated exposure

Causes serious eye irritation

Very toxic to aquatic life with long lasting effects

**Precautionary Statements**

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Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Rinse mouth.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Get medical advice/attention if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Collect spillage.

Dispose of contents/container in accordance with local and national regulations.

### Hazards Not Otherwise Classified (HNOC), Other Hazards

May form flammable/explosive dust-air mixture.

Dust may be explosive if mixed with air in critical proportions and in the presence of a source of ignition.

## SECTION 3: Composition/information on ingredients

### Substances

#### HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification	Carcinogen
Substituted amine	95 - 100	Acute Tox. 4 (H332) Acute Tox. 4 (H302) STOT Rep. 2 (H373) Eye Irrit. 2A (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA.

See Section 16 for full text of H phrases.

## SECTION 4: First aid measures

### DESCRIPTION OF FIRST AID MEASURES

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**Eye Contact:**

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

**Skin Contact:**

Wash immediately with plenty of water and soap.

**Ingestion:**

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Inhalation:**

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

**MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

None known

**INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS**

Not applicable

**SECTION 5: Firefighting measures****Suitable Extinguishing Media:**

Use water spray or fog, carbon dioxide or dry chemical.

**Extinguishing Media to Avoid:**

Full water jet

**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See

MSDS Section 8 (Exposure Controls/Personal Protection).

**Special Hazards:**

Dust may be explosive if mixed with air in critical proportions and in the presence of a source of ignition.

**SECTION 6: Accidental release measures****Personal precautions:**

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. Refer to Section 8 (Exposure Controls/Personal Protection) for appropriate personal protective equipment.

**Methods For Cleaning Up:**

Sweep up into containers for disposal. Flush spill area with water. Residues should be collected using an explosion-proof vacuum cleaner or hose from mechanical exhaust ventilation system. Do not flush spill to

waterways. Collected material should be disposed of in a secure landfill or by incineration. 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.

**References to other sections:**

See Sections 8 and 13 for additional information.

**SECTION 7: Handling and storage****HANDLING**

**Precautions:** Avoid release to the environment. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye/face protection. Contains finely divided material. Dust suspended in air may ignite with static discharge, sparks or flame. Equipment, including venting systems, should be grounded. Do not breathe dust.

**Special Handling Statements:** Maintain good housekeeping to control dust accumulations. DUST EXPLOSION HAZARD CLASS - 3. Handling of material should be in accordance with standards for venting of deflagrations (e.g. NFPA-68). If handled with flammable or combustible materials the explosion hazard may increase. 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.

**STORAGE**

Store in accordance with local, state, and federal regulations.

**Storage Temperature:** Not applicable

**SECTION 8: Exposure Controls/Personal Protection****Engineering Measures:**

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

**Respiratory Protection:**

For operations where inhalation exposure can occur, use an approved respirator fitted with Organic Vapor/HEPA cartridges. Where inhalation exposure cannot occur, no respiratory protection is required. A full face piece respirator also provides eye and face protection.

**Eye Protection:**

Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

**Skin Protection:**

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Since this product is absorbed through the skin, care must be taken to prevent skin contact and contamination of clothing.

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### Hand Protection:

Nitrile or fluorinated rubber gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditions in the work place. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility etc.) is noticed.

### Additional Advice:

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

### Exposure Limit(s)

The below constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits. No values have been established.

## SECTION 9: Physical and Chemical Properties

### Information on basic physical and chemical properties

Color	off white
Appearance	pastille
Odour	odorless
Odour Threshold	no data available
pH	no data available
Melting point/freezing point	85 - 101 °C 185 - 213.8 °F Glass transition point
Initial boiling point and boiling range	no data available
Flash point	no data available
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Upper/lower flammability or explosive limits	no data available
Vapour pressure	Negligible
Vapour density	no data available
Percent Volatile (% by wt.)	<0.5
Specific Gravity/density	1.096
Water solubility	0.00061g/L @ 20 °C
Volatile Organic Content	<5 gm/L
Partition coefficient: n octanol/water	no data available
Auto-ignition temperature	no data available
Decomposition temperature	>315 °C 599 °F
Viscosity	no data available

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Explosive properties no data available

Oxidizing properties no data available

### DUST HAZARD INFORMATION

Particle Size (microns) <75

Kst (bar-m/sec) 362

Maximum Explosion Pressure (Pmax): 8.3

Dust Class 3

Minimum Ignition Energy (MIE) (mJ) 10 - 30

Minimum Ignition Temperature (MIT) (°C) no data available

Minimum Explosive Concentration (MEC) (g/m³) no data available

Limiting Oxygen Concentration (LOC) (%) no data available

## SECTION 10: Stability And Reactivity

### Reactivity

No data available

### Stability

Stable

### Conditions To Avoid

No data available

### Polymerization

Will not occur

### Conditions To Avoid

None known

### Materials To Avoid

Strong oxidizing agents, acids, acid halides, certain halogens.

### Hazardous Decomposition Products

Ammonia (NH<sub>3</sub>)

Carbon dioxide

Carbon monoxide (CO)

hydrogen cyanide (HCN) Oxides of nitrogen

## SECTION 11: Toxicological Information

### PRODUCT TOXICITY INFORMATION

**Likely Routes of Exposure:** Oral, Respiratory System, Eyes, Skin.

### ACUTE TOXICITY DATA

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### ACUTE TOXICITY DATA

oral (gavage)	rat	Acute LD50	>500 - < 2000 mg/kg
dermal	rat	Acute LD50	>2000 mg/kg
inhalation	rat	Acute LC50 4 hr	~2.8 mg/l (Dust/Mist)

### LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	rabbit	Not irritating
Acute Irritation	eye	rabbit	Irritating

### ALLERGIC SENSITIZATION

Maximization Test (Magnusson-Kligman)	dermal	guinea pig	Not sensitizing
Sensitization	respiratory	No data	

### SUBACUTE/SUBCHRONIC TOXICITY

NOEL	rat	SubAcute 28 day	15 mg/kg/day
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Oral

### GENOTOXICITY

#### Assays for Gene Mutations

Ames Salmonella Assay	Salmonella Typhimurium	Escherichia coli	Not mutagenic
Mouse Lymphoma Assay	L5178Y TK +/-		Not mutagenic

#### Assays for Chromosomal Aberrations

In Vitro Chromosomal Aberrations	Human Lymphocyte	Not clastogenic
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### OTHER INFORMATION

The toxicity data above are the results from Cytec sponsored studies or from the available public literature.

### HAZARDOUS INGREDIENT TOXICITY DATA

Substituted amine has an acute oral LD50 (rat) of greater than 500 mg/kg. The acute dermal (rat) LD50 is greater than 2000 mg/kg. The acute 4-hour inhalation (rat) LC50 value is estimated to be >2.5 mg/liter based on test data on a similar material. Direct contact with this material caused moderate eye and no skin irritation when tested in laboratory animals.

No skin sensitization was seen when tested in guinea pigs. This material was negative in the Ames mutagenicity assay with and without metabolic activation.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

## SECTION 12: Ecological Effects

### TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

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This material is not readily biodegradable.

This material is highly toxic to aquatic organisms.

This material does not significantly bioaccumulate.

### ECOTOXICITY

#### ALGAE TEST RESULTS

**Test:** Growth Inhibition (OECD 201)

**Duration:** 72 hr

**Species:** Green Algae (*Selenastrum capricornutum*)

>0.15 mg/l                      EbC50                      Maximum obtainable test concentrations due to limited water solubility.

>0.15 mg/l                      EbC50                      Maximum obtainable test concentrations due to limited water solubility.

#### FISH TEST RESULTS

**Test:** Acute toxicity, freshwater (OECD 203)

**Species:** Rainbow Trout (*Oncorhynchus mykiss*)

>1.5 mg/l                      LC50

#### INVERTEBRATE TEST RESULTS

**Test:** Acute Immobilization (OECD 202)

**Duration:** 48 hr

**Species:** Water Flea (*Daphnia magna*)

0.64 mg/l                      EC50

#### BACTERIA TEST RESULTS

**Test:** Respiration Inhibition (OECD 209)

**Duration:** 3 hr

**Species:** Activated Sludge - Bacterial

>100 mg/l                      EC50

#### ACCUMULATION

**Test:** Bioaccumulation

**Species:** Carp (*Cyprinus carpio*)

Material does not

significantly

bioaccumulate

#### PERSISTENCE AND DEGRADABILITY

##### DEGRADATION

**Test:** CO2 Evolution: Modified Sturm (OECD 301B)

**Duration:** 28 day                      **Procedure:** Ready biodegradability

0 %

**Test:** Abiotic Degradation



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**Procedure:** Other

EbC50

Hydrolytically stable  
under acidic, neutral  
and basic conditions

**Test:** Adsorption / Desorption Coefficient (Koc)

1.38                      Equivalent Koc = 23.8, very high mobility in soil

**RESULTS OF PBT AND vPvB ASSESSMENT**

Not determined

**HAZARDOUS INGREDIENT TOXICITY DATA**

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to
Substituted amine	Not available	Not available	Not available

**SECTION 13: Disposal considerations**

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities.

The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

**SECTION 14: Transport Information**



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**UN number**

ADR/RID: 3077

IMDG: 3077

IATA: 3077

**UN proper shipping name**

ADR/RID: Environmentally hazardous substance, solid, n.o.s.

IMDG: Environmentally hazardous substance, solid, n.o.s.

IATA: Environmentally hazardous substance, solid, n.o.s.

**Transport hazard class(es)**

ADR/RID: 9

IMDG: 9

IATA: 9

**Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**Environmental hazards**

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: yes

**SECTION 15:Regulatory Information****Inventory Information**

**United States (USA):** All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

**European Economic Area (including EU):** When purchased from a Cytec legal entity based in the EU, this product is compliant with the registration of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, pre-registered and/or registered.

**Australia:** All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

**Japan:** All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

**Philippines:** One or more components of this product are NOT included on the Philippine (PICCS) inventory.

**Switzerland:** All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 16-17).

**Taiwan:** All components of this product are included on the Taiwan Chemical Substance Inventory (TCSI) or are not required to be listed on the Taiwan inventory.

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### OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA

(40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

This product does not contain any components regulated under these sections of the EPA

### PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute
- Fire

## SECTION 16: Other Information

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Any other precaution

The information herein is made based on references, information and data available at present. It maybe revised when new information is available.

The descriptions herein are for normal handling. For special application, make safety provisions suitable to them prior to use.