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

Product Code:	PowerStab™ 3853
Product name:	2, 2, 6, 6−tetramethyl−4−piperidinyl stearate
CAS-No.:	167078-06-0
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

Classification of the substance or mixture

Hazardous Products Regulations (WHMIS 2015)

Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Sub-category 1A	H317: May cause an allergic skin reaction.

GHS Label Elements

Pictogram

Signal Word Danger

Hazard Statements

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

Precautionary Statements

Prevention

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/ eye protection/ face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Other hazards which do not result in classification

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

Substance

Mixture.

Mixture

Chemical nature: Hindered amine

WHMIS Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [% wt/wt or V/V]
Hindered amine		97 – 100
4-Piperidinol, 2,2,6,6-tetramethyl-	2403-88-5	≤0.8

SECTION 4: First aid measures

Description of First Aid Measures

In case of inhalation

Quickly move the person away from the contaminated area. Make the affected person rest.

Obtain medical attention.

Show this sheet to the doctor.

Be prepared to provide first aid or medical support if necessary.

In case of skin contact

Wash off immediately with plenty of water for at least 15 minutes.

Use appropriate protective equipment when treating a contaminated person.

In case of inflammation (redness, irritation ...) obtain medical attention.

Show this sheet to the doctor.

Be prepared to provide first aid or medical support if necessary.

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Keep eye wide open while rinsing.

Show this sheet to the doctor.

Always obtain medical advice, even if there are no symptoms.

Be prepared to provide first aid or medical support if necessary.

In case of ingestion

Do NOT induce vomiting.
Immediate medical attention is required.
Show this sheet to the doctor.
Do not give anything to drink.
Be prepared to provide first aid or medical support if necessary.

Most important symptoms and effects, both acute and delayed

Effects

Chronic exposure may cause allergic dermatitis.
Exposure may cause allergic rhinitis, conjunctivitis, asthma or shock.
Chronic exposure may cause dermatitis.
May cause irreversible eye damage.
Loss of the eye

Symptoms

Breathing difficulties
Irritation
Redness
Swelling of tissue
Allergic rhinitis
Severe allergic skin reactions, bronchiospasm and anaphylactic shock
Itching
Causes skin burns.
Lachrymation
Conjunctivitis
Causes eye burns.

Indication of any immediate medical attention and special treatment needed

Notes to physician

Take victim to hospital if symptoms persist.
Get medical advice/ attention.
Consult with an ophthalmologist immediately in all cases.
Burns must be treated by a physician.
Treat symptomatically.
Keep under medical follow up for at least 48 hours.

SECTION 5: Firefighting measures

Extinguishing Media

Suitable Extinguishing Media water spray, foam, Carbon dioxide (CO_2), Multipurpose powders
Unsuitable extinguishing media

High volume water jet

Specific Hazards Arising from the Substance or Mixture

Under fire conditions: Will burn

On combustion, toxic gases are released.

Advice for Firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus. Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing. For further information refer to section 8 "Exposure controls / personal protection."

Specific firefighting methods

Do not use a solid water stream as it may scatter and spread fire.

Further information

Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

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. or further information refer to section 8 "Exposure controls / personal protection."

Environmental Precautions

Prevent further leakage or spillage if safe to do so.

Contain the spilled material by diking.

Do not let product enter drains.

Do not allow uncontrolled discharge of product into the environment.

Methods and Materials for Containment and Cleaning Up

Stop leak if safe to do so.

Avoid dust formation.

Sweep up and shovel into suitable containers for disposal.

Keep in properly labeled containers.

Keep in suitable, closed containers for disposal.

After cleaning, flush away traces with water.

Recover the cleaning water for subsequent disposal.

Decontaminate tools, equipment and personal protective equipment in a segregated area.

Dispose of in accordance with local regulations.

Never return spills in original containers for re-use.

Reference to other sections

HANDLING AND STORAGE

EXPOSURE CONTROLS/PERSONAL PROTECTION

DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

Precautions for safe handling

Do not release to water.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Wash hands before breaks and at the end of workday.

When using do not eat, drink or smoke.

Eye wash bottles or eye wash stations in compliance with applicable standards.

Ensure that eyewash stations and safety showers are close to the workstation location.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in accordance with the particular national regulations.

Specific end use(s)

no data available

SECTION 8: Exposure Controls/Personal Protection

Exposure controls

Control Parameters

Engineering measures

Provide appropriate exhaust ventilation at places where dust is formed.

Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection

Keep in a well-ventilated place.

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).

Hand protection

Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Impervious gloves

Suitable material

Nitrile or fluorinated rubber gloves.

Personal Protection Equipment

Eye protection

Dust proof goggles, if dusty.

Tightly fitting safety goggles

Eye wash bottles or eye wash stations in compliance with applicable standards.

Skin and body protection

Full protective suit

Change working clothes after each work-shift.

Contaminated work clothing should not be allowed out of the workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Wash hands before breaks and at the end of workday.

When using do not eat, drink or smoke.

Eye wash bottles or eye wash stations in compliance with applicable standards.

Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and Chemical Properties

Appearance:	Yellow Waxy Solid
Odor	odorless
Odor Threshold	No data available
Molecular weight	Mixture
pH	Not applicable
Melting point/freezing point	Melting point/range: 85.3 °F (29.6 °C)
Initial boiling point and boiling range	Boiling point/boiling range: 574 °F (301 °C)
Flash point	284 °F (140 °C) closed cup
Evaporation rate (Butylacetate = 1)	Not applicable
Flammability (solid, gas)	No data available
Flammability (liquids)	No data available
Flammability / Explosive limit	Not applicable
Autoignition temperature	662 °F (350 °C)
Vapor pressure	0.0004 mmHg (0.0005 hPa) (77 °F (25 °C))
Vapor density	No data available
Density	0.952 g/cm3 (70 °F (21 °C))
Relative density	No data available
Solubility	Water solubility: insoluble
Partition coefficient: n-octanol/water	log Pow: 8.92

Decomposition temperature	No data available
Viscosity	Not applicable
Explosive properties	No data available
Oxidizing properties	Not considered as oxidizing.
Other information	
Surface tension	Not applicable
Corrosion of Metals	Not corrosive to metals.
Peroxides	The substance or mixture is not classified as organic peroxide.

SECTION 10: Stability And Reactivity

Reactivity

No information available

Chemical Stability

Stable

Possibility of Hazardous Reactions

No information Available

Conditions to Avoid

No information Available

Incompatible Materials

No information Available

Hazardous Decomposition products

Carbon monoxide, Nitrogen oxides (NOx), Carbon dioxide (CO_2)

SECTION 11:Toxicological Information

Information on toxicological effects

Acute toxicity

Acute oral toxicity

LD50 : > 10,000 mg/kg - Rat

Published data

Acute inhalation toxicity

LC50 - 7 h (dust/mist) 0.005 mg/l - Rat

No toxicity at the limit of solubility.

Acute dermal toxicity

LD50 > 5,000 mg/kg - Rabbit

Published data

Acute toxicity (other routes of administration)

Not applicable

Skin corrosion/irritation

Rabbit

slight irritation

Published data

Serious eye damage/eye irritation

Rabbit

Risk of serious damage to eyes.

Published data

Respiratory or skin sensitization

Guinea pig

Classified as a skin sensitizer sub-category 1A according to GHS criteria

Mutagenicity

Genotoxicity in vitro

Ames test

Strain: Salmonella typhimurium

negative

Published data

Chromosome aberration test in vitro

Strain: V79

negative

Published data

Genotoxicity in vivo

Product is not considered to be genotoxic.

According to the available data on the components.

According to the classification criteria for mixtures.

Unpublished reports and/or published data.

Carcinogenicity T

he product is not considered to be carcinogenic.

According to the available data on the components.

According to the classification criteria for mixtures.

Unpublished reports and/or published data.

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

ACGIH

Toxicity for reproduction and development

Toxicity to reproduction / fertility

The product is not considered to affect fertility., According to the available data on the components.

According to the classification criteria for mixtures.

Unpublished reports and/or published data.

Developmental Toxicity/Teratogenicity

The product is not considered to be toxic for development., According to the available data on the components.

According to the classification criteria for mixtures.

Unpublished reports and/or published data.

STOT

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

According to the available data on the components.

According to the classification criteria for mixtures.

Unpublished reports and/or published data.

STOT-repeated exposure

The substance or mixture is not considered to cause damage to organs through prolonged or repeated exposure.

According to the available data on the components.

According to the classification criteria for mixtures.

Unpublished reports and/or published data.

The product itself has not been tested.

Experience with human exposure

Experience with human exposure: Inhalation

No data is available on the product itself.

Experience with human exposure: Skin contact

No data is available on the product itself.

Experience with human exposure: Eye contact

No data is available on the product itself.

Experience with human exposure: Ingestion

No data is available on the product itself.

Aspiration toxicity

No aspiration toxicity classification, According to the available data on the Components, According to the classification criteria for mixtures.

SECTION 12: Ecological Effects

Toxicity

Aquatic Compartment

Acute toxicity to fish

LC50 - 96 h : > 0.80 mg/l - Oncorhynchus mykiss (rainbow trout)
Method: OECD Test Guideline 203
Published data
LC50 - 96 h : > 0.14 - 0.25 mg/l - Danio rerio (zebra fish)

Acute toxicity to daphnia and other aquatic invertebrates

EC50 - 48 h : ca. 0.11 mg/l - Daphnia magna (Water flea)
Method: OECD Test Guideline 202
Published data

Toxicity to aquatic plants

ErC50 - 72 h : > 0.495 mg/l - Selenastrum capricornutum (green algae)
Method: OECD Test Guideline 201
saturated aqueous solution

Toxicity to microorganisms

The product itself has not been tested.

Chronic toxicity to fish

The product itself has not been tested.

Chronic toxicity to daphnia and other aquatic invertebrates

EC50: 0.19 mg/l - 21 Days - Daphnia magna (Water flea)
Method: OECD Test Guideline 202
NOEC: 0.054 mg/l - 21 Days - Daphnia magna (Water flea)
Method: OECD Test Guideline 202

Sediment compartment

Toxicity to benthic organisms: The product itself has not been tested.

Terrestrial Compartment

Toxicity to soil dwelling organisms: The product itself has not been tested.
Toxicity to terrestrial plants: The product itself has not been tested.
Toxicity to above ground organisms: The product itself has not been tested.

M-Factor

Hindered amine: Acute aquatic toxicity = 1

Persistence and degradability

Abiotic degradation

Stability in water: Conclusion is not possible for a mixture as a whole.
Photodegradation: Conclusion is not possible for a mixture as a whole.
Other Physicochemical reactions: Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

Physico-chemical removability: Conclusion is not possible for a mixture as a whole.

Biodegradation

Biodegradability

Ready biodegradability study:
Method: OECD Test Guideline 301C
100 % - 28 Days
The substance fulfills the criteria for ultimate aerobic biodegradability and ready biodegradability
Biochemical oxygen demand
Published data
Ratio BOD / COD: Conclusion is not possible for a mixture as a whole.
Ratio BOD / ThOD: Conclusion is not possible for a mixture as a whole.
Biochemical Oxygen Demand (BOD): Conclusion is not possible for a mixture as a whole.
Dissolved organic carbon (DOC):Conclusion is not possible for a mixture as a whole.
Chemical Oxygen Demand (COD): Conclusion is not possible for a mixture as a whole.
Adsorbed organic bound halogens(AOX): Conclusion is not possible for a mixture as a whole.

Bioaccumulative potential

Partition coefficient: n-octanol/water: No data available
Bioconcentration factor (BCF):No data available

Mobility in soil

Adsorption potential (Koc): Conclusion is not possible for a mixture as a whole.
Known distribution to environmental compartments: No data available

Results of PBT and vPvB assessment

No data available
Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard

Very toxic to aquatic life.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Long-term (chronic) aquatic hazard

Very toxic to aquatic life with long lasting effects.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

SECTION 13:Disposal considerations

Waste treatment methods

Product Disposal

The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

SECTION 14:Transport Information

TDG	
UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Hindered amine)
Transport hazard class	9
Label(s)	9
Packing group	
Packing group	III
ERG No	171
Environmental hazards	YES
Marine pollutant	Marine Pollutant
DOT	
UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Hindered amine)
Transport hazard class	9
Label(s)	9
Packing group	
Packing group	III
ERG No	171
Environmental hazards Marine pollutant	YES
NOM	
UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Hindered amine)
Transport hazard class	9
Label(s)	9
Packing group	
Packing group	III
ERG No	171
Environmental hazards Marine pollutant	YES

IMDG

UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Hindered amine)
Transport hazard class	9
Label(s)	9
Packing group	
Packing group	III
ERG No	171
Environmental hazards Marine pollutant	YES
Special precautions for user	
EmS	F-A , S-F

For personal protection see section 8.

IATA

UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Hindered amine)
Transport hazard class	9
Label(s)	9
Packing group	
Packing group	III
Packing instruction (cargo aircraft)	956
Max net qty / pkg	400.00 kg
Packing instruction (passenger aircraft)	956
Max net qty / pkg	400.00 kg
Environmental hazards	YES
Special precautions for user	

For personal protection see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15:Regulatory Information

Notification status

Inventory Information	Status
United States TSCA Inventory	All substances listed as active on the TSCA inventory
EU. European Registration, Evaluation,	When purchased from a European

Authorization and Restriction of Chemical (REACH)	Solvay legal entity, this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of Europe, please contact your local representative for additional Information.
Canadian Domestic Substances List (DSL)	Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	Listed on Inventory
New Zealand. Inventory of Chemical Substances	All components are listed on the NZIOC Inventory. The HSNO status of the product has not been assessed

National Regulations

Canada. CEPA 1999 Significant New Activity (SNAc) List:

No substances are subject to a Significant New Activity Notification.

SECTION 16:Other Information

NFPA (National Fire Protection Association) - Classification

Health	3 serious
Flammability	1 slight
Instability or Reactivity	0 minimal

Further information

Distribute new edition to clients

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety and Health Administration
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health

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.