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MATERIAL SAFETY DATA SHEET

AT-1010

1. Identifications of the substance/product and company

Commodity Name of the Chemical : Antioxidant 1010

Chemical Name in English : Tetrakis [methylene-3- (3,5 -di-tert - butyl -4- hydroxyphenyl- propionate)] methane

Supplier: Yantai Sunychem International Co.Ltd.

E-F.,6th Fl., No.155,Sheng Li Road, Yantai,

China, 264000

Tel: 86-535-6622355

Fax: 86-535-6228696

2. Product Identity

INGREDIENT NAME	CAS NO.	%
Tetrakis [methylene-3- (3,5 -di-tert - butyl -4-hydroxyphenyl-propionate)] methane	6683-19-8	94% min.

*Indented chemicals are components of previous ingredient.

Additional Information

5 mg/m3 Respirable Dust Level (OSHA)

3 mg/m3 Respirable Dust Level (ACGIH)

PNOR = Particulates Not Otherwise Regulated

PNOC = Particulates Not Otherwise Classified

3. Hazard Information

Emergency Overview: White to off-white powder, granules or pellets
No odor
Not expected to be a hazard in normal industrial use.
Dusts can form an explosive mixture with air.

Relevant Routes of Exposure: Inhalation and ingestion.

Signs and Symptoms of Overexposure: No known signs and symptoms of exposure.

Medical Conditions Generally Aggravated By Exposure: None reported

Potential Health Effects: See Section 11 for additional information.

Eyes: Not expected to be a hazard in normal industrial use.
As with any dust, mechanical irritation is possible to the eye.

Skin: Not expected to be a hazard in normal industrial use.
As with any dust, mechanical irritation is possible to the skin.

Ingestion: Not expected to be a hazard in normal industrial use.

Inhalation: As with any dust, mechanical irritation is possible to mucous membranes and the respiratory tract.

Chronic Health Effects: None known

Carcinogenicity:

NTP: No **ACGIH:** No **IARC:** No **OTHER:** No **OSHA:** No

4. First Aide Measures

Eyes:	Flush with large volumes of water for at least 15 minutes. Get medical attention.
Skin:	Wash with large volumes of soap and water for at least 15 minutes. If irritation develops, get medical attention.
Ingestion:	If conscious, give person 1 to 2 glasses of water. Get medical attention immediately.
Inhalation:	Remove person to fresh air. Get medical attention.
Antidotes:	No information available
Notes to Physicians and/or Protection for First-Aiders:	No information available

5. Fire Fighting Measures

Flammable Limits in Air (% by Volume):	Not available
Flash Point:	298 degrees C (Closed Cup)
Autoignition Temperature:	Not available
Extinguishing Media:	All conventional media are suitable. A strong jet stream of water is not suitable.
Fire Fighting Instructions:	Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact in fire situations.
Unusual Fire and Explosion Hazards:	Under fire conditions, toxic and irritating fumes may be emitted. Dusts can form an explosive mixture with air.
Flammability Classification:	Combustible dust
Known or Anticipated Hazardous Products of Combustion:	Carbon monoxide and carbon dioxide

6. Accidental Release Measures

Accidental Release Measures:	Shut off all sources of ignition. Wearing appropriate personal protective equipment, carefully sweep up material and place in suitable labeled containers for disposal. Avoid creating a dusting condition. Use only non-sparking tools. Wash spill area after pick-up is complete, collecting all clean up water for appropriate disposal.
Personal Precautions:	See Section 8.
Environmental Precautions:	Avoid releasing to the environment.

7.Handling and Storage

Handling:	Use appropriate personal protection equipment. Avoid eye, skin and clothing contact. Avoid breathing dust. Avoid repeated and prolonged contact. Avoid creating a dusting situation. Prevent buildup of static electricity. All equipment should be properly grounded.

Storage:	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep container tightly closed. Store away from heat, sparks, and flame. Protect containers against damage. Keep material in supplier's packaging.
Other Precautions:	Avoid contact of material with open flames.

8. Exposure controls/Personal protection

Engineering Controls:	Adequate general ventilation is recommended when handling to control airborne levels.
Ventilation Requirements:	Use local exhaust to minimize dusting. Use mechanical ventilation for general area control.
Personal Protective Equipment:	Chemical safety glasses with side shields or
Eye/Face Protection:	chemical safety goggles
Skin Protection:	Gloves - PVC Do not wear textile or leather gloves. Clothing designed to minimize skin contact
Respiratory Protection:	Wear a NIOSH/MSHA approved dust respirator if dusting occurs, or there is potential for airborne exposures to exceed established threshold values. Consult the OSHA respiratory protection information located at 29CFR 1910.134 and the American National Standard Institute's Practices of Respiratory Protection Z88.2.
Other Protective	
Clothing or Equipment:	No information available
Exposure Guidelines:	See Section 2.
Work Hygienic Practices:	Wash thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink, chew gum, use tobacco products, or apply cosmetics in work areas.

9. Physical and Chemical Properties

Appearance: White to off-white powder, granules or pellets

Boiling Point: 1130.3 degrees C (calculated)

Bulk Density: Not available

Color: White to off-white

Decomposition Temperature: Not available

Evaporation Rate: Not available

Freezing Point: Not available

Heat Value: Not available

Melting Point: 110-125 degrees C

Molecular/Chemical Formula: C73H108O12

Molecular Weight: 1176.5

Percent Volatile: Not available

pH Value: Not available

pH Concentration: Not available

Physical State: Solid

Reactivity in Water: Not water reactive

Saturated Vapor Concentration: Not available

Softening Point: Not available

Solubility in Water: Insoluble

Specific Gravity or Density (Water=1): 1.15 (d 20/4)

Vapor Density: Not available

Vapor Pressure: 1 x 10(-12) at 20 degrees C

Octanol/Water Partition Coefficient: Log Pow = 23
Odor: No odor
Odor Threshold: Not available
Particle Size: Not available
Viscosity: Not available
Volatile Organic Compounds: Not available
Water/Oil Distribution Coefficient: Not available
Weight Per Gallon: Not available

Additional Information

Minimum Ignition Energy: Between 1 mJ and 3 mJ
Minimum Ignition Temperature: 420 degrees C

10. Stability and Reactivity

Stability: Stable under normal conditions of handling and use.
Conditions to Avoid: Ignition sources and dusting
Incompatibility With Other Materials: Strong oxidizers

Hazardous Decomposition Products: Thermal decomposition may produce the following: Carbon monoxide and carbon dioxide
Hazardous Polymerization: Will not occur
Conditions to Avoid: None

11. Toxicological information

VALUE (LD50 OR LC50)	ANIMAL	ROUTES	COMPONENTS
>46 mg/L/1H	Rat	Acute Inhalation	Tetrakis(methylene(3,5-di-tertbutyl-4-hydroxyhydrocinnamate))methane
>3,160 mg/kg	Rabbit	Acute Dermal	Tetrakis(methylene(3,5-di-tertbutyl-4-hydroxyhydrocinnamate))methane
>5,000 mg/kg	Rat	Acute Oral	Tetrakis(methylene(3,5-di-tertbutyl-4-hydroxyhydrocinnamate))methane

Toxicological Information:

Tetrakis(methylene(3,5-di-tert-butyl-4-hydroxy-hydrocinnamate))methane: This material has been determined not to be a primary eye or skin irritant in rabbits. Negative results were found in a sensitization study in guinea pigs. Negative mutagenicity results were obtained in an Ames test, a dominant lethal assay, a somatic mutation assay, and a reverse mutation assay.

In a 13 week repeated dose study in beagle dogs at doses of 1,000, 3,000, and 10,000 ppm, no adverse effects could be related to treatment.

In a two generation reproductive study at doses of 1,000, 3,000 and 10,000 ppm, no reproductive effects were seen.

Teratogenicity studies in rats and mice have shown negative results.

12. Ecological Information

Ecological Information:

EC50 in Daphnia magna (24 hour) >86 mg/L
LC50 in Zebra fish (96 hour) >100 mg/L
LC50 in Salmo gairdneri (96 hour) = 49 mg/L
EC50 in Algae (72H) >100 mg/L
EC50 in Escherichia coli (3H) >100 mg/L
A photodegradation half-life has been estimated at 1.2 hours.

Partially biodegradable
Avoid releasing to the environment.

13. Disposal Consideration

Disposal Considerations: Dispose of waste at an approved chemical disposal facility in compliance with all current Local, State/Province, Federal/Canadian laws and regulations.

14. Transport Information

ADR/RID Class: Free
IMO Class: Free
ICAO Class: Free

15. Regulatory Information

U.S. Federal Regulations:

The components of this product are either on the TSCA Inventory or exempt (i.e. impurities, a polymer complying with the exemption rule at 40 CFR 723.250) from the Inventory.

State Regulations:

No information available

International Regulations:

This material (or each component) is listed on the following inventories:
Canada - DSL
EU - EINECS
Australia - AICS
Japan - ENCS
Korea - ECL
Philippines - PICCS
China - List I
Canadian WHMIS Hazard Class and Division = Not controlled

SARA Hazards:

Acute: No **Chronic:** No
Reactive: No **Fire:** No
Pressure: No

Additional Information

The above regulatory information represents only selected regulations and is not meant to be a complete list.

16. Other Information

NFPA Codes:

Health: 0 **Flammability:** 1
Reactivity: 0 **Other:** 0

HMIS Codes: * indicates chronic health hazard.

Health: 0 **Flammability:** 1
Reactivity: 0 **Protection:** X

Label Statements: Not available

Other Information:

Abbreviations:
(L) = Loose bulk density in g/ml
LOEC = Lowest observed effect concentration
MATC = Maximum acceptable toxicant concentration
NA = Not available
N/A = Not applicable
NL = Not limited

NOAEL = No observable adverse effect level
NOEC = No observed effect concentration
NOEL = No observable effect level
NR = Not rated
(P) = Packed bulk density in g/ml
PNOC = Particulates Not Otherwise Classified
PNOR = Particulates Not Otherwise Regulated
REL = Recommended exposure limit
TS = Trade secret

Additional Information

Information on this form is furnished solely for the purpose of compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200 and The Canadian Environmental Protection Act, Canada Gazette Part II, Vol. 122, No. 2 and shall not be used for any other purpose.

Revision Information:

General review and update
Section 9 - Physical properties
Section 11 - Toxicological information
Section 12 - Ecological Information

Declaration

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete.