Material Safety Data Sheet
Antioxidant 245

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

1.1. Product identifier

Antioxidant 245

Chemical name: ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]

CAS Number: 36443-68-2

Synonym name: irganox 245

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: antioxidant

Recommended use: stabilizer

Not recommended use: This material is not intended for use in products for which prolonged contact with mucous membranes, body fluids or abraded skin, or implantation within the human body, is specifically intended, unless the finished product has been tested in accordance with nationally and internationally applicable safety testing requirements. Because of the wide range of such potential uses, we are not able to recommend this material as safe and effective for such uses and assume no liability for such uses.

1.3. Details of the supplier of the safety data sheet

Dongguan Baoxu Chemical Technology.,ltd.

Address: caijing business Bldg DongGuan CN 523071

Tel 0769 22821082 Fax 86 0769 22821083

Website:www.additivesforpolymer.com

Email:info@additivesforpolymer.com

1.4. Emergency telephone number

SECTION 2: Hazards Identification 2.1.

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 CLP

No need for classification according to GHS criteria for this product.

According to Directive 67/548/EEC or 1999/45/EC Possible Hazards:

The product is under certain conditions capable of dust explosion.

2.2. Label elements

Globally Harmonized System, EU (GHS)
The product does not require a hazard warning label in accordance with GHS criteria. According to Directive 67/548/EEC or 1999/45/EC
The product does not require a hazard warning label in accordance with EC Directives. as in Annex VI of Directive 67/548/EEC

The product does not require a hazard warning label in accordance with EC Directives. Self classification

2.3. Other hazards

According to Regulation (EC) No 1272/2008 CLP
The product is under certain conditions capable of dust explosion.

SECTION 3: Composition/Information on Ingredients 3.1.

Substances

Ethylenebis(oxyethylene) bis | 3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]
Chemical nature

antioxidant

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:
If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention. On skin contact:
Wash thoroughly with soap and water.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Further important symptoms and effects are so far not known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media: dry powder, foam

Unsuitable extinguishing media for safety reasons: carbon dioxide

Additional information:

whirling up the material/product because of the danger of dust explosion.

5.2. Special hazards arising from the substance or mixture

harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Contain with dust binding material and dispose of.
Avoid raising dust.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation. Protection against fire and explosion:
Avoid dust formation. Take precautionary measures against static discharges.

Dust explosion class: Dust explosion class 2 (Kst-value 200 up to 300 bar m s-1).

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

The packed product is not damaged by low temperatures or by frost.
The packed product will not be damaged by high temperatures.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Persona Protection

8.1. Control parameters

Components with occupational exposure limits
No occupational exposure limits known.
PNEC
freshwater:

A PNEC could not be derived as the substance showed no range of its solubility. At the present state of knowledge, no toxic effects in studies performed in the negative ecological effects are expected.

marine water:
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

intermittent release:
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

STP: 1 mg/l

sediment (freshwater):
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

sediment (marine water):
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

DNEL
worker:
Long-term exposure- systemic effects, Inhalation: 23.5 mg/m3

worker:
Long-term exposure- systemic effects, dermal: 6.7 mg/kg consumer:
Long-term exposure- systemic effects, Inhalation: 5.8 mg/m3 consumer:
Long-term exposure- systemic effects, dermal: 3.3 mg/kg consumer:
Long-term exposure- systemic effects, oral: 3.3 mg/kg

8.2. Exposure controls

Personal protective eauipme l`] t Respiratory protection:
Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:
Chemical resistant protective gloves (EN 374)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	powder
Colour:	white to slightly yellow
Odour:	odourless

Odour threshold:	No applicable information available.
pH value:	7 (1 %(m)) (as suspension)
Melting point:	78.4 °C
Boiling point:	
decomposition point:	not applicable
Flash point:	> 300 °C >150 °C
Evaporation rate:	The product is a non-volatile solid. not highly flammable
Flammability:	
Ignition temperature:	> 390 °C
Vapour pressure:	< 0.000001 hPa (20 °C)
Density:	1502 g/cm3 (22 °C)
Solubility in water:	(23 °C; pH value: 6.4)
Self ignition:	not self-igniting not applicable
Viscosity, dynamic:	not determined
Explosion hazard:	not explosive :
Fire promoting properties:	not fire-propagating
Bulk density: pKA:	approx. 360 kg/m3
Hygroscopy:	not applicable
Adsorption/water - soil: Volatility/water - air:	Non-hygroscopic KOC: 1914000; log KOC: 6.3 (calculated)
Surface tension:	not applicable
Molar mass:	35.4 (jm (D50, Volumetric Distribution, other

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated.

Formation of flammable gases:	Remarks:	Forms no presence	flammable gases in the of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

Dust explosion hazard.

10.4. Conditions to avoid

Avoid dust formation. Avoid deposition of dust. Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong acids, strong bases

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.
Experimental/calculated data:
LD50 rat (oral): > 7,000 mg/kg (similar to OECD guideline 401)

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (similar to OECD guideline 404)
Serious eye damage/irritation rabbit: non-irritant (similar to OECD guideline 405)
Respiratory/Skin
sensitization Assessment of
sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing. (similar to OECD guideline 406)
Germ cell mutagenicity
Assessment of
mutagenicity:
No mutagenic effect was found in various tests with bacteria and mammalian cell culture.
The substance was not mutagenic in a test with mammals.

Carcinogenicity
Assessment of carcinogenicity:
In long-term studies in rats the substance induced thyroid tumors. Due to the rat-specific mode of action, no carcinogenic effects are expected in man. Hence, the findings are of low relevance for humans.
Reproductive toxicity Assessment
of reproduction toxicity:
Animal studies gave no indication of a fertility impairing effect at doses which were not toxic to the parental animals.

Developmental toxicity

Assessment of teratogenicity:
Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. No toxic effects occur within the range of solubility. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms.

Toxicity to fish:
LC50 (96 h) 43 mg/l, Lepomis macrochirus (OECD Guideline 203, static)
The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The LC50 is higher than the solubility limit. No toxic effects occur within the range of solubility. The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates:
EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The product has low solubility in the test medium. A saturated solution has been tested. Limit concentration test only (LIMIT test). The details of the toxic effect relate to the nominal concentration.

Aquatic plants:
EC50 (72 h) > 100 mg/l (biomass), Scenedesmus subspicatus (Guideline 92/69/EEC, C.3, static)
The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility. The details of the toxic effect relate to the nominal concentration.

No observed effect concentration (72 h) 100 mg/l (biomass), Scenedesmus subspicatus (Guideline 92/69/EEC, C.3, static)
The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility. The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:
EC20 (3 h) > 100 mg/l, activated sludge, domestic (OECD Guideline 209, static)
The details of the toxic effect relate to the nominal concentration.

EC50 (3 h) > 100 mg/l, activated sludge, domestic (OECD Guideline 209, static) The details of the toxic effect relate to the nominal concentration.

12.2 Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria). The product can be virtually eliminated from water by abiotic processes e.g. adsorption onto activated sludge.

Elimination information:
8 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4- C) (aerobic, activated sludge, domestic, non-adapted)

12.3 Bioaccumulative potential

Assessment bioaccumulation potential:
Significant accumulation in organisms is not to be expected.

Bioaccumulation potential:
Bioconcentration factor: <= 12 (56 d), Cyprinus carpio (OECD Guideline 305 C)
Based on a weight of evidence, the compound will not bioaccumulate.

12.4 Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Adsorption to solid soil phase is expected.

12.5 Results of PBT and vPvB assessment

According to AnnexXIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6 Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7 Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

SECTION 14: Transport Information

Land transport

Not classified as a dangerous good under transport regulations

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es)	Not applicable
Packing group:	Not applicable
Environmental hazards:	

RID

Not classified as a dangerous good under transport regulations

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es)	Not applicable
Packing group:	Not applicable
Environmental hazards:	

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number:	Not applicable
UN proper shipping name: Transport hazard class(es): Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

UN number:	Not
UN proper shipping name:	classified as
Transport hazard class(es):	Not
Packing group:	applicable
Environmental hazards:	Not
Special precautions for	applicable

Air transport

IATA/ICAO

UN number:	
UN proper shipping name:	Not classified as a dangerous good under transport
Transport hazard class(es):	regulations
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for	Not applicable
user	Not applicable

14.1. UN number

See corresponding entries for “UN number” for respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for “UN proper shipping above.

14.3. Transport hazard class(es)

See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for “Special precautions for user” for the respective regulations

Regulation:	Not
Shipment	evaluated

Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006
Restrictions of Regulation (EC) No 1907/2006, Annex XVII, do not apply for the intended use(s) of the product given in this MSDS.

15.2. Chemical Safety Assessment

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and