OTTO CHEMIE PVT LTD

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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

1.Identification
1.1GHS Product identifier
Butylated hydroxytoluene, 99%
Code B 2345

2.Hazard identification
2.1Classification of the substance or mixture
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1
2.2GHS label elements, including precautionary statements
Pictogram(s)

Signal word	Warning
Hazard statement(s)	H410 Very toxic to aquatic life with long lasting effects
Precautionary statement(s)	
Prevention	P273 Avoid release to the environment.
Response	P391 Collect spillage.
Storage	none
Disposal	P501 Dispose of contents/container to ...

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2,6-di-tert-butyl-4-methylphenol	2,6-di-tert-butyl-4-methylphenol	128-37-0	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
Fresh air, rest. Refer for medical attention.
In case of skin contact
Remove contaminated clothes. Rinse and then wash skin with water and soap.
In case of eye contact
First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
If swallowed
Rinse mouth. Rest. Refer for medical attention .
4.2Most important symptoms/effects, acute and delayed
Exposure Routes: inhalation, ingestion, skin and/or eye contact Symptoms: Irritation eyes, skin Target Organs: Eyes, skin (NIOSH, 2016)
4.3Indication of immediate medical attention and special treatment needed, if necessary
If this chemical gets into the eyes, remove any contact lenses at once and irrigate immediately for at least 15 min, occasionally lifting upper and lower lids. Seek medical attention immediately. If this chemical contacts the skin, remove contaminated clothing and wash immediately with soap and water. Seek medical attention immediately. If this chemical has been inhaled, remove from exposure, begin rescue breathing (using universal precautions, including resuscitation mask) if breathing has stopped and CPR if heart action has stopped. Transfer promptly to a medical facility. When this chemical has been swallowed, get medical attention.

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2Specific hazards arising from the chemical

This chemical is combustible.
5.3Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Sweep spilled substance into covered containers. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.
6.3Methods and materials for containment and cleaning up
ACCIDENTAL RELEASE MEASURES: Personal precautions, protective equipment and emergency procedures: Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions for safe storage, including any incompatibilities
Separated from strong oxidants and strong bases. Well closed.Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Non Combustible Solids.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
Recommended Exposure Limit: 10 Hour Time-Weighted Average: 10 mg/cu m.
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	White crystals or crystalline powder
Colour	White, crystalline solid
Odour	Very faint, musty, occasional cresylic-type odor
Melting point/ freezing point	248\u00b0C(lit.)
Boiling point or initial boiling point and boiling range	265\u00b0C(lit.)
Flammability	Class IIIB Combustible Liquid: Fl.P. at or above 93.33\u00b0C.Combustible.
Lower and upper explosion limit / flammability limit	no data available
Flash point	127\u00b0C
Auto-ignition temperature	470\u00b0C
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	3.47 centistokes at 0\u00b0C; 1.54 centistokes at 120\u00b0C
Solubility	In water:insoluble
Partition coefficient n-octanol/water (log value)	log Kow = 5.10
Vapour pressure	<0.01 mm Hg (20 \u00b0C)
Density and/or relative	1.048

density
Relative vapour density 7.6 (vs air)
Particle characteristics no data available

10.Stability and reactivity
10.1Reactivity
no data available
10.2Chemical stability
Stable under recommended storage conditions.
10.3Possibility of hazardous reactions
Combustible when exposed to heat or flame.Phenols, such as BUTYLATED HYDROXYTOLUENE, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock. May react with oxidizing materials.
10.4Conditions to avoid
no data available
10.5Incompatible materials
Incompatible materials: Acid chlorides, acid anhydrides, oxidizing agents, bases, brass, copper
10.6Hazardous decomposition products
Hazardous decomposition products formed under fire conditions - Carbon oxides.

11.Toxicological information
Acute toxicity
Oral: LD50 Rat oral 890 mg/kg
Inhalation: no data available
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
No data are available in humans. Limited evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 3: The agent is not classifiable as to its carcinogenicity to humans.
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12.Ecological information
12.1Toxicity
Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
12.2Persistence and degradability
AEROBIC: 2,6-Di-t-butyl-p-cresol, present at 50 mg/L, reached 4.5% of its theoretical BOD in 4 weeks using a sludge inocula at 50 ppm(1). Using a Kodaira (sandy clay loam; pH 5.5, 31% sand, 40% silt, 29% clay; 15.3% organic matter; Tokoyo), Azuchi (light clay; pH 6.3, 65% sand, 18% silt, 17% clay; 2.5% organic matter; Shiga Pref) and Takarazuka (sandy loam; pH 7.0, 95% sand, 3% silt, 2% clay; 2.7% organic matter; Hyogo Pref) soils in Japan, 14C-labeled 2,6-di-t-butyl-p-cresol was degraded 57.3, 55.8 and 48.4% degraded, respectively, after 24 days(2).
12.3Bioaccumulative potential
BCF values 330-1800, 230-2500 and 220-2800 were measured for 2,6-di-t-butyl-p-cresol present at 5, 50 and 500 ppb, respectively, using rice fish (Cyprinus carpio) which were exposed over a 6 to 8-week period(1). According to a classification scheme(2), these BCF values suggest that bioconcentration in aquatic organisms is high to very high(SRC), provided the compound is not metabolized by the organism(SRC).
12.4Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of 2,6-di-t-butyl-p-cresol can be estimated to be 1.5X10+4(SRC). According to a classification scheme(2), this estimated Koc value suggests that 2,6-di-t-butyl-p-cresol is expected to be immobile in soil.
12.5Other adverse effects
no data available

13.Disposal considerations
13.1Disposal methods
Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information
14.1UN Number
ADR/RID: UN3077 IMDG: UN3077 IATA: UN3077
14.2UN 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.
14.3Transport hazard class(es)
ADR/RID: 9 IMDG: 9 IATA: 9
14.4Packing group, if applicable
ADR/RID: III IMDG: III IATA: III
14.5Environmental hazards
ADR/RID: yes IMDG: yes IATA: yes
14.6Special precautions for user
no data available
14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15.Regulatory information
15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2,6-di-tert-butyl-4-methylphenol	2,6-di-tert-butyl-4-methylphenol	128-37-0	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.