FOREWORD INTRODUCTION

2,6-DI-TERT-BUTYLPHENOL

CAS N°: 128-39-2

Substance

End Point	:	**IDENTIFIERS, PHYSICAL AND CHEMICAL PROPERTIES**
Chemical Name	:	**Phenol, 2,6-bis(1,1-dimethylethyl)-**
Common Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
RTECS Number	:	**SK8265000**

Synonyms

AN 701
2,6-Bis(tert-butyl)phenol
2,6-DTBP
Ethanox 701
Ethyl 701
Ethyl AN 701
Irganox L 140
Isonox 103
Phenol, 2,6-di-tert-butyl-
TK 12891

Properties & Definitions

Molecular Formula	:	**C14H22O**
Molecular Weight	:	**206.33**
Melting Point	:	**36-37C**
Boiling Point	:	**253C**
Flash Point	:	**118C open cup**
Density	:	**0.91 at 40C**
Vapour Pressure	:	**101.3E-5 kPa(76E-4 mmHg)at 20C**
Octanol/Water Partition Coefficient	:	**log Pow = 4.5 at 24-24.6C**
Water Solubility	:	**4.11 mg/L at 25C**
Impurities	:	**<0.5% 2,4-di-tert-butylphenol; <0.5% 2-tert-butylphenol; <0.5% 4-tert-butylphenol**
General Comments	:	Autoignition at 375C

Overall Evaluation

PRESENTLY OF LOW CONCERN

RELEASES AND SOURCES

The quantities released into the environment are expected to be small. The main part of the production volume is used as an intermediate for the synthesis of other substances. In the United States the percentage of 2,6-DTBP used as a synthetic intermediate for the production of higher molecular weight phenolic antioxidants was reported to be between 75 and 95 %. According to informations received from the Swiss manufacturer, 95 - 100% of the quantity produced in Switzerland are used as an intermediate.

At the production site in Switzerland, only very small quantities of 2,6-DTBP are emitted into air and water. Reaction gases and residues are incinerated. There is no direct release into the water. Waste water samples are analysed daily and the monitoring data show the concentration to be below the detection limit of 0.01 mg/L.

The remaining percentage of the production is used as an oxidation inhibitor and stabilizer mainly for fuel, oil and gasoline. Incorporation in plastics and rubber has also been reported, but seems not to be an important application. All these end-uses have to be considered as potential diffuse sources for the release of 2,6-DTBP into the atmosphere. The substance, however, is not volatile (vapour pressure at 25C = 1 Pa). Most of it will be incinerated (directly, when used as additive in gasoline and fuel; as a waste, when used as oil additive). Releases into the air are difficult to estimate but are expected to be small. Assuming 5 % of the total production are used as additive for fuel, oil and gasoline and assuming 0.5 % of the quantity used in these applications are lost by evaporation, 2.5 tons per year would be released into the atmosphere from diffuse sources. (The value of 0.5 % is based on experiences with gasoline. DTBP is less volatile than most components in gasoline, and DTBP losses are probably clearly below 0.5 %).

PARTITIONING AND FATE

2,6-DTBP is a sparingly soluble, not readily biodegradable chemical with a potential for bioaccumulation (log Pow = 4.5). A measured BCF in a fish (golden orfe) of 660 after 3 days has been reported . The adsorption coefficients measured with 3 different types of sediment show that sediment fixation is not strong. Based on the calculated Henry coefficient of 50 m3Pa mol-1 volatilisation from water is not rapid but significant. Results from Mackay level 1 calculation indicate that 25 % and 70 % partition into air and soil, respectively, if log Pow = 4.5 is used as input data. If the experimental sediment sorption coefficient is used, the result is somewhat different: 48 % and 46 % partition into air and soil, respectively.

The substance is not readily biodegradable. The poor water solubility seems to influence the test result. The available biodegradation test was performed above the solubility limit. The test substance was dissolved only partially in the test medium. At the lower nominal test concentration some mineralisation was observed (5 % CO2 at 10 mg/L). Photodegradation has been reported and seems to be the more important degradation path than biodegradation.

EXPOSURE

CONSUMER EXPOSURE

Consumer exposure is possible during the refueling operations with cars or containers. The exposure time will be short, the exposure frequency small and the exposure concentration low (2,6-DTBP is not volatile and the concentrations of the substance in consumer products is low). There is no substantial human exposure from these sources. Other sources of exposure for the general population are not likely to exist.

OCCUPATIONAL EXPOSURE

Occupational exposure occurs during the blending process of fuel, oil and gasoline. A very limited exposure is possible during the sampling of the reaction product and the cleaning or maintenance of the manufacturing unit. No data on workplace monitoring have been reported. Occupational exposure to 2,6-DTBP is probably low and only a few workers are involved.

ENVIRONMENT

2,6-DTBP is very toxic for water organism. Experimental data are available for acute and subacute tests with five species of two taxonomic groups. All reported LC50 and EC50 values are within a narrow range. According to the OECD provisional guidance for initial assessment of aquatic effects an assessment factor of 100 has to be applied to the most sensitive acute toxicity test result for calculating the maximum tolerable concentration (MTC) in water. The lowest acute toxicity was reported for daphnids (EC50 48 h = 0.45 mg/L).

MTC acute = 0.45/100 = 4.5 E-3 mg/L

Consequently the environment is considered to be endangered if the concentration in the surface water exceeds this value.

No end-uses of 2,6-DTBP are known that give rise to releases into the aquatic environment. But DTBP is expected to enter the aquatic environment as a result of waste water releases from sites where it is manufactured.

The highest concentrations of 2,6-DTBP, therefore, are expected to occur near the production site. The concentration of the substance in the water leaving the production site in Switzerland is analysed daily, and the water authorities are provided with the results. The waste water is then lead into a waste water treatment plant.

Monitoring data show the concentration of 2,6-di-tert-butylphenol entering the waste water treatment plant to be lower than the detection limit of 0.01 mg/L. As a worst case scenario this concentration can be used to calculate the predicted environmental concentration (PEC) in the surface water. Assuming no elimination takes place and using a dilution factor of only 10 (corresponding to a very small river), the following result for PEC is obtained :

PEC = < 10E-2 mg/L / 10 < E-3 mg/L

In a worst case scenario the MTC/PEC ratio is therefore

MTC/PEC = 4.5 E-3 / < E-3 >= 4.5

For more realistic estimations, dilution in the waste water treatment plant has also to be taken into account, and the real dilution factor in the receiving water body has also to be used. At the production site in Switzerland

these dilution factors are known to be higher. In addition, at least some elimination will occur in the activated sludge treatment plant (elimination by sorption). The realistic MTC/PEC ratio, therefore, is higher.

Estimates of global environmental concentrations are difficult to make. Degradation rate constants are lacking and estimates on releases into the environment are uncertain. However, diffuse releases into the air resulting from its uses as an additive for fuel, oil or gasoline are minimal and do certainly not exceed 2500 kg per year. Emissions at the production sites do not significantly contribute to this figure (reaction gases are incinerated and 2,6-DTBP cannot be detected in the waste water of the Swiss production plant). Mackay level III calculations show the global environmental concentration to be negligible in all compartments.

HUMAN HEALTH

The substance is acutely not toxic, but irritant to skin and eyes. It is neither reprotoxic nor teratogenic and there is no genotoxic potential. It is harmful by prolonged exposure, the NOAEL being 15 mg/kg/day. The estimated dose of low concern (EDLC) can be calculated using an uncertainty factor of 100:

EDLC = 15 / 100 = 0.15 mg/kg/day

Based on the low vapour pressure it is assumed that even in a worst case the exposure to the atmosphere at the working place is very low. The only situation workers could be exposed is during the sampling of the reaction product and the cleaning or maintenance of the manufacturing unit. During handling gloves are worn to prevent any contact to the irritating substance. Therefore the exposure at the working place in a manufacturing plant can be considered to be low. The exposure of consumers using fuel oil or gasoline is insignificant as the substance is present in low concentrations (ppm range).

CONCLUSIONS AND RECOMMENDATIONS

2,6-DTBP is very toxic to water organisms and it is not biodegradable. No further testing is needed to confirm this profile. Releases to the waste water may present a significant risk and have to be avoided. No risk to contaminate the water compartment arises from its use as an antioxidant, but manufacturing of 2,6-DTBP has to be considered as a potential source. The best available technology has to be used to avoid waste water releases. Monitoring data at the production site in Switzerland show the waste water concentrations to be below the detection limit of 0.01 mg/L and the risk to harm water organisms to be manageable.

Under the known conditions of use the substance is very unlikely to present a risk to human health. No further toxicity test data are required.

2,6-DTBP, therefore, is of low current priority, and there is actually no concern for further work as long as the use pattern remains unchanged.

Production-Trade

Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Geographic Area : **CHE**

Production

Quantity	*Year*
6000 t - P	**1989**
5000 t - P	**1991**

General Comments : In 1991 the substance was sold by the producer to five different customers in the following countries: Spain, Italy, Germany, Switzerland and France.

References

!SIDSP*
Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Production-Trade

Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Geographic Area : **USA**

Production

Quantity	*Year*
>1000- t - P	

References

!SIDSP*
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)
#URETC*
Unpublished Report-Ethyl Corporation

Processes

Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Process

Process comments : The synthesis is performed in a closed system. Reaction gases and distillation residues are incinerated. Incineration is the most adequate mode of disposal. It is free of heavy metals, nitrogen and sulfur. The substance contains only carbon, hydrogen and oxygen leading to CO2 and H2O as final outcome.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Uses

Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Geographic Area : **USA**

Use

Quantity	*Year*	*Comments*
75-95 %		As a synthetic intermediate for the production of higher molecular weight phenolic antioxidants.

References

Primary References : **CHERR***
Chemical Regulation Reporter, 11(4), 663-667, (1987)

Secondary References : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Uses

Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Geographic Area : **CHE**

Use

Quantity	*Year*	*Comments*
95-100 %		Used as an intermediate according to the information received from the Swiss manufacturer. Used as an oxidation inhibitor and stabiliser (e.g. for fuel, oil and gasoline). Incorporation in plastics and rubber has also been reported.

References

Primary References : **#URSAN***
Sandoz Chemicals Ltd. Unpublished Report - Sandoz Chemicals

Secondary References : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **Pathway into the Environment and Environmental Fate.**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Test Method and Conditions

Test method description : Mackay generic fugacity model for evaluating the regional fate of chemicals as supplied by OECD.

Pathway and Transport

Pathway : **AIR** **SOIL**

Quantity Transported

Medium	*to Medium*	*Quantity*	*Time*	*Year*	*to Year*
AQ	**to AIR**	**25 %**			
Mackay level 1 calculation.					
	to SOIL	**70 %**			
Mackay level 1 calculation.					
AQ	**to AIR**	**48 %**			
Based on the experimental sediment sorption coefficient.					
	to SOIL	**46 %**			
Based on the experimental sediment sorption coefficient.					
	to AIR	**2.5 t**			
Estimated diffuse releases from use as an additive for fuel, oil or gasoline.					

General Comments : Based on the calculated Henry coefficient of 50 m3Pamol-1, volatilisation from water is not rapid but significant.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Geographic Area	:	**CHE**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**WASTE**		

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*

<0.01 mg/L

The concentrations in the waste water of the plant in Switzerland are analyzed daily. Data below detection limit 0.01 mg/L are reported.

0.001 mg/L

Predicted environmental concentration PEC. A worst case scenario, assuming no elimination takes place and using a dilution factor of 10. MTC/PEC ratio in a worst case scenario >=4.5.

0.0045 mg/L

MTC acute in water. Calculation based on an assessment factor of 100 and lowest acute toxicity (reported for daphnids).

General Comments : The highest concentration of 2,6-DTBP are expected to occur in the waste water near the production site. The substance cannot be detected in the waste water of the Swiss production plant. Mackay level III calculations show the global environmental concentration to be negligible in all compartments.

References

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Study type	:	**LAB**

Test Subject

Organism	*Medium*	*Specification*
MCR	**AQ**	**SLUDG**

Species/strain/system : Activated sludge from municipal sewage treatment plant

Test Substance

Purity Grade : **98.4%**

Test Method and Conditions

Test method description : OECD 301B (modified Sturm test). Concentrations above the solubility limit were tested. The test substance was not fully dissolved in the medium. GLP: no

(An)aerobic : **AEROB**

Exposure

Exposure Period : **28 d**
Dose / Concentration : **10-20 mg/L**

Test Results

Quantity	*Time*	*Comments on result*
5 %	**28 d**	Biodegradation at 10 mg/L.
1 %	**28 d**	Biodegradation at 20 mg/L.
		Above results are calculated on the basis of the measured dioxide formation and the theoretical carbon content of the test solution at nominal test concentrations. At the lower nominal test concentration some mineralization was observed (5% CO2 at 10 mg/L).

General Comments : Due to the very low solubility of the substance and the bad biodegradability it is unlikely that the substance can be degraded in a Waste Water Treatment Plant.

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 87-40-63, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**PHOTODEGRADATION**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**

Test Results

General Comments	:	Photodegradation was reported and appears to be more important than biodegradation. (See also Chem. Regulation Reporter 11 (14), pp 663-667, July 3, 1987).

References

Primary Reference	:	**EESADV** Freitag, D. et al. Ecotoxicology and Environmental Safety, 6(1), 60-81, (1982)
Secondary Reference	:	**!SIDSP*** Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**SORPTION**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Study type	:	**LAB**
Specifications	:	**SED**
Species/strain/system	:	Sediment type studied: EPA-5, EPA-8 and EPA-15

Test Method and Conditions

Test method description	:	EPA 540/9-82-021. Test material: 14C labelled 2,6-DTBP. GLP: yes

Test Results

Quantity	*Time*	*Comments on result*
		For sediment type EPA-5: adsorption constant Kd = 58.5. Adsorption constant based upon organic carbon content Koc = 2570. Slope of the regression line = 0.921.
		For sediment type EPA-8: adsorption constant Kd = 10.4. Adsorption constant based upon organic carbon content Koc = 6960. Slope of the regression line = 0.776.
		For sediment type EPA-15: adsorption constant Kd = 37.6. Adsorption constant based upon organic carbon content Koc = 3950. Slope of the regression line = 0.767.
General Comments :		Based on the observed sediment/solution coefficients the substance is considered to be mobile as defined in FR44, 16264 (16.03.1979).

References

Primary Reference : **#URSLC***
Unpublished Report-Springborn Life Sciences, 88-07-2720, (1988)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIOCONCENTRATION**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Test Results

General Comments : No test result available. The partition coefficient of 4.5 indicates a tendency for bioaccumulation.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIOCONCENTRATION**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Golden orf (Oryzias latipes)

Exposure

Exposure Period : **3 d**

Test Results

Organ	*Bioconcent. Factor*	*Calc Basis*	*Time*	*State*
	660		**3 d**	

References

Primary Reference : **EESADV**
Freitag, D. et al. Ecotoxicology and Environmental Safety, 6(1), 60-81, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Species/strain/system : Rat/Raif (SPF)

Test Method and Conditions

Test method description : Fixed Dose Test; GLP: no

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**ORL**	**ADULT**		**LD50**	Oral LD50 for rats was calculated as >5000 mg/kg.

References

Primary Reference : **#GEIGY***
Ciba-Geigy. Ciba-Geigy Documents and Data, 810549, (1981)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**SKN**	**ADULT**		**LD50**	Dermal LD50 for rats was estimated as >1000 mg/kg and <32000 mg/kg.

General Comments : The given LD50 is according to an information submitted under TSCA Sect. 8(d) by Ethyl Corporation.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT			**ORL**	**ADULT**	**M**		
					F		

Species/strain/system : Rat, Wistar

Test Method and Conditions

Test method description : EEC directive 84/449/EEC and OECD Guideline 407 "Repeated Dose Toxicity Screening Test".

Exposure

Exposure Type : **SHORT**
Exposure Period : **28 d**
Dose / Concentration : **15-600 mg/kg**
Exposure comments : Oral doses of 0, 15, 100 and 600 mg/kg were administered for 28 days.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
BLOOD	**BIOCH**			**F**	

At the doses of 100 and 600 mg/kg/day, there were decreased levels of serum urea in females only.

LIVER	**SIZE**			**M**	

Increased relative liver weights were found at 100 mg/kg /day dose level in males only.

INT	**SIZE**			**M**	

At macroscopic examination enlarged caecum was noted in 2 out of 5 males in the dose group of 100 mg/kg/day.

BLOOD	**BIOCH**				

An increased serum total protein level was found in males and females, and increased serum albumin level was found in males at the dose groups of 600 mg/kg/day.

BLOOD BIOCH

Decreased inorganic phosphate and increased calcium levels were noted in the serum of females from 600 mg/kg/day dose groups.

INT SIZE
LIVER SIZE
KIDNY SIZE

In the dose groups of 600 mg/kg/day enlarged caecum was found in 4/5 males and 5/5 females. In the same dose group enlargement of liver and kineys were noted.

LIVER SIZE
KIDNY SIZE

At the dose group of 600 mg/kg increased liver weights were noted in males and females, and increased kidney weights in males only.

LIVER CHNG
KIDNY CHNG

At microscopic examination in the dose groups of 600 mg/kg there was a slight increase of hepatocellular hypertrophy in the centrilobular area in males and females, and eosinophilic inclusions in the renal cortex of males only.

General Comments : Concentration of the test substance at which no toxic effects were observed was 15 mg/kg/day under the test conditions.

References

Primary Reference : **#URSRC***
Sandoz Chemicals Ltd. Unpublished CCR Report - Sandoz, 304435, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
BACT			**VTR**				

Species/strain/system : Escherichia coli: WP2, WP2 UVRA and Salmonella typhimurium TA98, TA100, TA1535, TA1537, TA1538

Exposure

Exposure Type : **SHORT**
Exposure comments : Test with and without metabolic activation by S9.

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	NEF				

The results of the tests were negative for mutagenic effects in the presence or absence of metabolic activation.

References

Primary Reference : **MUREAV**
Dean et al. Mutation Research, 153(1-2), 57-77, (1985)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
HAMST			**VTR**				

Species/strain/system : Chinese hamster V79 cells

Test Substance

Purity Grade : **98.7%**

Test Method and Conditions

Test method description : OECD Guideline 476, 40 CFR, Ch. I, part 798; mammalian cell gene mutation assay; GLP: yes.

Exposure

Exposure Type : **SHORT**

Exposure comments : The tests were performed with the following concentrations: Without S-9 mix: 0.3, 1.0, 2.0, 4.0, 6.0 and 8.0 ug/mL. With S-9 mix: 3.0, 10.0, 20.0, 30.0, 40.0 and 50.0 ug/mL.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
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	NEF				

Up to the highest concentrations of the test substance no relevant increase in mutant colony numbers was obtained in two independent experiments. There was no mutagenic effect observed with or without metabolic activations.

References

Primary Reference : **#URSRC***
Sandoz Chemicals Ltd. Unpublished CCR Report - Sandoz, 243617, (1991)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
HAMST			**VTR**				

Species/strain/system : Chinese hamster V79 cells

Test Substance

Purity Grade : **98.7%**

Test Method and Conditions

Test method description : OECD Guideline 473; EEC directive 84/449, L251, B 10; chromosome aberration assay. GLP: yes

Exposure

Exposure Type : **SHORT**
Exposure Period : **18-28 h**
Dose / Concentration : **0.3-50 ug/mL**
Exposure comments : Chromosome aberration potential was tested with the following concentrations: Without S-9 mix: 18 h - 0.3, 3.0, 6.0, 10.0 ug/mL. 28 h - 6.0 ug/mL. With S-9 mix: 18 h - 3.0, 30.0, 50.0 ug/mL. 28 h - 50.0 ug/mL.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
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	NEF				

No mutagenic effects were obtained with or without metabolic activation. The tests did not produce chromosomal aberrations.

General Comments : The test substance negatively affected the plating efficiency of the cells at concentrations higher than 3.0 ug/mL (without S-9 mix) and 30.0 ug/mL (with S-9 mix).

References

Primary Reference : **#URSRC***
Sandoz Chemicals Ltd. Unpublished CCR Report - Sandoz, 243628, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **IRRITATION**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**SKN**				

Species/strain/system : New Zealand white rabbit

Test Method and Conditions

Test method description : Guidelines EPA, 163.81-5 of Federal Register Vol 43, No. 163. GLP: No.

Exposure

Exposure Type : **SHORT**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
SKIN	**IRRIT**				

Maximum scores after 72 hours was 6, under the test conditions.

General Comments : The test substance was found to cause a marked irritation of the skin.

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 810550, (1981)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **IRRITATION**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**OCU**	**ADULT**			

Species/strain/system : New Zealand white rabbit

Test Method and Conditions

Test method description : EPA, Federal Register Vol 43, No. 163. GLP: no

Exposure

Exposure Type : **SHORT**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
EYE	**IRRIT**				

Maximum scores after 96 hours was 4.8 (unrinsed eyes).

General Comments : The test substance was considered as moderately irritating to the eye (EPA).

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 810551, (1981)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **REPRODUCTION**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Evaluations

Evaluation text : The mutual reproduction parameters (precoital time, percentage mating, fertility index and conception rate) indicated no test article related effects in any dose group. An increased breeding loss / reduce viability index was observed for the females of the higher dose group (750 mg/kg). At this dose level, the body weight gain of pups was reduced from days 1 to 4 post partum (study termination). No other test article-related effects on the pups were noted in any dose group. Neither macroscopic examination of the parent animals, nor microscopic examination or mean organ weight and organ/body weight ratios of testes and ovaries, gave any indication of test article-related effects. Based on these results, the only observed effect was the appearence of severe toxic symptoms in the higher dose group (750 mg/kg). With respect to the reproduction and the teratogenic parameters, no effects were noted up to and including 750 mg/kg body weight per day.

References

Primary Reference : **#URSRC***
Sandoz Chemicals Ltd. Unpublished CCR Report - Sandoz

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **REPRODUCTION**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT			**ORL**	**ADULT**	**M**	**10/GROUP**	**10**
					F	**10/GROUP**	**10**

Species/strain/system : Wistar rats

Test Substance

Purity Grade : **98.7%**

Test Method and Conditions

Test method description : OECD "Preliminary Reproduction Toxicity Screening Test". GLP: yes

Exposure

Exposure Type : **SHORT**

Exposure comments : Doses of: 0, 30, 150 or 750 mg/kg body weight per day were administered by oral gavage throughout the premating (2 weeks) and mating (up to 13 days) periods for all animals. Thereafter the males received the test substance for the total of 43 days and the females up to day 3 post partum.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
BW	**DECR**			**M**	

Marginally reduced body weight gain was observed in male rats from the dose group of 750 mg/kg/day in spite of increased food consumption.

BW	**DECR**			**F**	

Slight reduction of body weight gains was observed in females of 750 mg/kg/day dose group. Reduced food consumption was observed in the same group.

General Comments : The test substance caused severe general toxicity symptoms at the dose of 750 mg/kg/day, in male and female rats. With respect to the reproduction no effects were noted up to (and including) 750 mg/kg/day. All reproduction parameters indicated no substance related effects.

References

Primary Reference : **#URSRC***

Sandoz chemicals Ltd. Unpublished CCR Report - Sandoz, 321794, (1992)

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **TERATOGENICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT							

Species/strain/system : Wistar

Test Substance

Purity Grade : **98.7%**

Test Method and Conditions

Test method description : OECD "Preliminary Reproduction/Developmental Toxicity Test". GLP: yes

Exposure

Exposure comments : Parental exposure doses of: 0, 30, 150 or 750 were tested for teratogenicity effect in the offspring.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
BW	**DECR**				

At 750 mg/kg maternal exposure dose level the body weight gain of pups was reduced.

General Comments : Other than reduced body weight gain - no test substance related effects on the pups were noted in any dose group.

References

Primary Reference : **#URSRC***
Sandoz Chemicals Ltd. Unpublished CCR Report - Sandoz, 321794, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Species/strain/system	:	Scud (Gammarus fasciatus)
Exposure Period	:	**24-96 h**
Dose / Concentration	:	**0.6-1.0 mg/L**

Test Method and Conditions

Test method description	:	Flow-through test. GLP: yes. Solvent: Acetone.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
CRUS	**AQ**	**MARIN**				**LC50**	LC50 for 24 hours = 1.0 mg/L. LC50 for 48 hours = 0.80 mg/L. LC50 for 72 hours = 0.70 mg/L. LC50 for 96 hours = 0.60 mg/L.

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 88-12-2881, (1988)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Species/strain/system	:	Rainbow trout (Oncorhynchus mykiss)
Exposure Period	:	**4-14 d**
Dose / Concentration	:	**0.74-1.0 mg/L**

Test Method and Conditions

Test method description	:	Doses of 0.89 mg/L were also tested for 7 days. Solvent: Acetone. Flow-through test; GLP: yes.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50**	LC50 for 96 hours > 1.0 mg/L (highest tested concentration). LC50 for 7 days = 0.89 mg/L. LC50 for 14 days: 0.74 mg/L.

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 89-05-2948, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Species/strain/system : Fathead minnow (Pimephalos promelas)
Exposure Period : **4-14 d**
Dose / Concentration : **1.0-1.4 mg/L**

Test Method and Conditions

Test method description : Doses of 1.1 mg/L were also tested for 7 days. Solvent: Acetone. Flow-through test; GLP: yes.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50**	LC50 for 96 hours = 1.4 mg/L. LC50 for 7 days = 1.1 mg/L. LC50 for 14 days = 1.0 mg/L.

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 88-12-2867, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Species/strain/system : Zebrafish (Brachydanio rerio)
Exposure Period : **24-96 h**
Dose / Concentration : **10-24 mg/L**

Test Method and Conditions

Test method description : Doses of 13 and 15 mg/L were also tested for 48 and 72 hours. Solvent: acetone OECD Guideline 203. Static test; GLP: no

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50**	LC50 for 24 hours = 24 mg/L. LC50 for 48 hours = 15 mg/L. LC50 for 72 hours = 13 mg/L. LC50 for 96 hours = 10 mg/L. Values are based on nominal concentrations; small oil droplets were observed on the surface of the test solutions.

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 87-40-58, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Study type	:	**LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**	**FRESH**					

Species/strain/system : Algae (Selenastrum capricornutum)

General Comments : Two attempts were made to test algal toxicity in response to the U.S. EPA proposed Test Rule for 2,6-DTBP. Both studies were found to be inacceptable, because stable test concentrations could not be maintained during the test period. EPA's Environmental Effects Branch finally concluded that a meaningful DTBP toxicity value for algae cannot be attained using the current or modified OPPT test guideline and EPA decided that no additional algal testing would be required.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
CRUS	**AQ**	**MARIN**					

Species/strain/system : Scud (Gammarus faciatus)

Test Substance

Purity Grade : **99.88**
Vehicle - Solvent : Acetone

Test Method and Conditions

Test method description : Flow-through test. GLP: yes

Exposure

Exposure Type : **ACUTE**
Exposure Period : **96 h**
Dose / Concentration : **0.38 mg/L**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---
	NOEL				

NOEL for 96 hours = 0.38 mg/L.

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 88-12-2881, (1988)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
CRUS	**AQ**	**FRESH**					

Species/strain/system : Water flea (Daphnia magna, Straus 1820)

Test Substance

Purity Grade : **98.4%**
Vehicle - Solvent : Acetone

Test Method and Conditions

Test method description : OECD Guideline 202. GLP: no

Exposure

Exposure Type : **ACUTE**
Exposure Period : **24 h**
Dose / Concentration : **0.58-5.8 mg/L**
Exposure comments : Doses of 1.7 mg/L was also tested.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50				
	BEHAV				

EC50 for 24 hours = 1.7 mg/L.

	EC0				
	BEHAV				

EC0 for 24 hours = 0.58 mg/L.

	EC100				
	BEHAV				

EC100 for 24 hours = 5.8 mg/L.

Above values are based on nominal concentrations; the test substance appeared homogeneously distributed in all test concentrations.

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 87-40-57, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
CRUS	**AQ**	**FRESH**					

Species/strain/system : Water flea (Daphnia magna)

Test Substance

Purity Grade : **99.88**
Vehicle - Solvent : Acetone

Test Method and Conditions

Test method description : EPA/OTS standards. Flow-through test. GLP: yes

Exposure

Exposure Type : **ACUTE**
Exposure Period : **24-48 h**
Dose / Concentration : **0.076-0.59 mg/L**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50				
	BEHAV				

EC50 for 24 hours > 0.59 mg/L, EC50 for 48 hours = 0.45 mg/L

	NOEL				
	BEHAV				

NOEC = 0.076 mg/L

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 88-12-2893, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Rainbow trout (Oncohrhynchus mykiss)

Test Substance

Purity Grade : **99.88**
Vehicle - Solvent : Acetone

Test Method and Conditions

Test method description : Flow-through test; GLP: yes

Exposure

Exposure Period : **4-14 d**
Dose / Concentration : **<0.21 mg/L**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEL				

NOEL < 0.21 mg/L

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 89-05-2948, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Fathead minnow (Pimephales promelas)

Test Substance

Vehicle - Solvent : Acetone

Test Method and Conditions

Test method description : Flow-through test; GLP: yes

Exposure

Exposure Type : **LONG**
Exposure Period : **4-14 d**
Dose / Concentration : **0.30 mg/L**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEL				

NOEL = 0.30 mg/L

References

Primary Reference : **#URETC***
Ethyl Corp. Unpublished Report-Ethyl Corporation, 88-12-2876, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **2,6-Di-tert-butylphenol**
CAS Number : **128-39-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Zebrafish (Brachydanio rerio)

Test Substance

Purity Grade : **98.4%**
Vehicle - Solvent : Acetone

Test Method and Conditions

Test method description : OECD Guideline 203. Static test; GLP: no

Exposure

Exposure Type : **ACUTE**
Exposure Period : **96 h**
Dose / Concentration : **10 mg/L**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	LC0				

LC0 for 96 hours = 10 mg/L. Values are based on nominal concentrations; small oil droplets were observed on the surface of the test solutions.

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 87-40-58, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**2,6-Di-tert-butylphenol**
CAS Number	:	**128-39-2**
Study type	:	**LAB**
Geographic Area	:	**CHE**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
MCR	**AQ**	**SLUDG**					

Species/strain/system : Activated sludge collected from sewage treatment plant of CH-4153 Reinach

Test Method and Conditions

Test method description : OECD Guideline 209; GLP: no

Exposure

Dose / Concentration : **100->100 mg/L**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
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	EC50				

EC50 > 100 mg/L (nominal concentration). EC50 of reference substance 3,5-dichlorophenol= 11 mg/L. EC50 for inhibition.

References

Primary Reference : **#URCIB***
Ciba-Geigy. Unpublished Report-Ciba Geigy, 81 44 04, (1988)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Substance

Chemical Name :
Reported Name : **2,6-DI-TERT-BUTYLPHENOL**
CAS Number : **128-39-2**

Area	Type	Subject	Spec.	Description	Level / Summary Information :
DEU	**REC**	**AIR**	**OCC**	**MAK**	EXPERIENCE IN HUMANS OR IN ANIMAL EXPERIMENTA TION HAS NOT PROVIDED SUFFICIENT INFORMATION FOR ESTABLISHMENT OF A MAK VALUE. COMPONENT O F METAL-WORKING FLUIDS.

Title : MAXIMUM CONCENTRATIONS AT THE WORKPLACE AND B IOLOGICAL TOLERANCE VALUES FOR WORKING MATERI ALS (MAXIMALE ARBEITSPLATZKONZENTRATIONEN UND BIOLOGISCHE ARBEITSSTOFFTOLERANZWERTE)

Reference : **MPGFDF, XXVII, 17, 1991** ***Effective Date :***
MITTEILUNG DER SENATSKOMMISSION ZUR PRUEFUNG GESUNDHEITSSCHAEDLICHER ARBEITSSTOFFE (DEUTSCHE FORSCHUNGSGEMEINSCHAFT)

Last Amendment : ***Entry / Update :*** JAN1992

Substance

Chemical Name :
Reported Name : **PHENOL,2,6-BIS(1,1-DIMETHYLETHYL)-**
CAS Number : **128-39-2**

Area	Type	Subject	Spec.	Description	Level / Summary Information :
USA	**REG**	**MANUF**	**REQ**	**PRMT**	; Summary - THE FOLLOWING CHEMICAL IS INCLUDE D ON A LIST OF CHEMICALS AND MIXTURES FOR WHI CH REPORTING IS CURRENTLY REQUIRED UNDER THE TOXIC SUBSTANCES CONTROL ACT SECTION 2607A. T HIS TOXIC SUBSTANCE IS SUBJECT TO PRELIMINARY ASSESSMENT INFORMATION RULES ON PRODUCT ION QUANTITIES, USES, EXPOSURES, AND ADVERSE EFFE CTS. MANUFACTURERS INCLUDING IMPORTERS MUST S UBMIT A REPORT FOR THIS LISTED CHEMICAL MANUF ACTURED AT EACH SITE.
		USE	**OCC**	**PRMT**	
		SAFTY	**OCC**	**MXL**	

Title : PRELIMINARY ASSESSMENT INFORMATION RULES

Reference : **FEREAC, 47, 26998, 1982** ***Effective Date :*** 1982
Federal Register

Last Amendment : **CFRUS*, 40, 712, 30, 1990** ***Entry / Update :*** OCT1991
Code of Federal Regulations

Substance

Chemical Name :
Reported Name : **PHENOL,2,6-BIS(1,1-DIMETHYLETHYL)-**
CAS Number : **128-39-2**

Area	*Type*	*Subject*	*Spec.*	*Description*	*Level / Summary Information :*
USA	**REG**	**MONIT**	**-**	**RQR**	; Summary - THIS IS A CHEMICAL OR MIXTURE FOR WHICH REPORTING IS CURRENTLY REQUIRED UNDER THE TOXIC SUBSTANCE CONTROL ACT HEALTH AND SA FETY STUDIES SECTION 2607D. PERSONS WHO CURRE NTLY MANUFACTURE OR PROCESS CHEMICAL SUBSTANC ES OR MIXTURES FOR COMMERCIAL PURPOSES, THOSE WHO PROPOSE TO DO SO, AND THOSE WHO ARE NOT CURRENTLY INVOLVED WITH A LISTED CHEMICAL BUT WHO MANUFACTURED OR PROCESSED IT OR PROPOSED TO DO SO ANY TIME DURING THE TEN YEAR PERIOD PRIOR TO THE TIME IT BECAME LISTED MUST SUBM IT TO THE ADMINISTRATOR OF THE U.S. EPA STUDI ES OR LISTS OF HEALTH AND SAFETY STUDIES COND UCTED ON THIS SUBSTANCE FOR EVALUATION.

Title : HEALTH AND SAFETY DATA REPORTING RULES SECTIO N 8(D)

Reference :	**FEREAC, 51, 32726, 1986** **Federal Register**	***Effective Date :***	1986
Last Amendment :	**CFRUS*, 40, 716, 120, 1990** **Code of Federal Regulations**	***Entry / Update :***	OCT1991