

## Justification for the selection of a candidate CoRAP substance

### – UPDATE –

<b>Substance Name (EC Name):</b>	Phenol, styrenated (1) ; Reaction mass of 2,4,6-tris(1-phenyl-ethyl)phenol and Bis(1-phenylethyl) phenol (2)
<b>Chemical Group:</b>	Organics (Antioxidant additives)
<b>EC Number:</b>	262-975-0 (1) ; 915-333-5 (2)
<b>CAS Number:</b>	61788-44-1 ; NS
<b>Submitted by:</b>	UK CA
<b>Published:</b>	20/03/2013 Update 26/03/2014

#### Note

This document has been prepared by the evaluating Member State given in the CoRAP update.

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## 1 IDENTITY OF THE SUBSTANCE

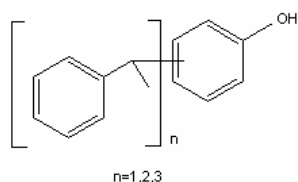
### 1.1 Name and other identifiers of the substance

Table 1: Substance identity

<b>Public Name:</b>	Phenol, styrenated	Reaction mass of 2,4,6-tris(1-phenylethyl)phenol and 2,6-bis(1-phenylethyl)phenol
<b>EC number:</b>	262-975-0	915-333-5 (ECHA List Number)
<b>EC name:</b>	Phenol, styrenated	n.a.
<b>CAS number (in the EC inventory):</b>	61788-44-1	n.a.
<b>CAS number:</b>	61788-44-1	n.a.
<b>CAS name:</b>	Unknown	
<b>IUPAC name:</b>	Phenol, styrenated	Reaction mass of 2,4,6-tris(1-phenylethyl)phenol and 2,6-bis(1-phenylethyl)phenol
<b>Index number in Annex VI of the CLP Regulation</b>	Not listed	
<b>Molecular formula:</b>	C <sub>14</sub> H <sub>14</sub> O (monostyrenated phenol) C <sub>22</sub> H <sub>22</sub> O (distyrenated phenol) C <sub>30</sub> H <sub>30</sub> O (tristyrenated phenol)	
<b>Molecular weight or molecular weight range:</b>	198.27 – 406.57 g/mol	
<b>Synonyms:</b>	Styrenated Phenol	

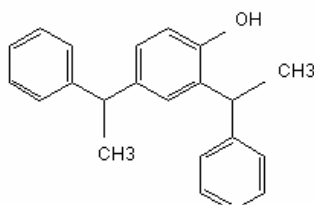
Type of substance     Mono-constituent     Multi-constituent     UVCB

#### Structural formula General

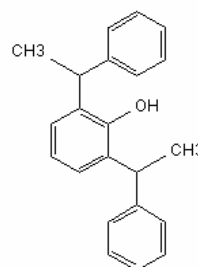


#### 2,4-distyrenated

2,4-bis(1-phenylethyl)phenol

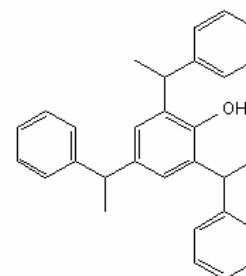


#### 2,6-distyrenated



#### tristyrenated

2,4,6-tris(1-phenylethyl)phenol



## 2 CLASSIFICATION AND LABELLING

### 2.1 Harmonised Classification in Annex VI of the CLP

None listed

### 2.2 Proposal for Harmonised Classification in Annex VI of the CLP

None given

### 2.3 Self classification

**CLP:** Registration data lists the following

**EC-no. 262-975-0:**

Joint submission full registration:

*REG 1:*

Skin Irrit. 2; H315: Causes skin irritation.

Eye Irrit. 2; H319: Causes serious eye irritation.

*REG 2:*

Skin Irrit. 2; H315: Causes skin irritation.

Skin Sens. 1 ; H317: May cause an allergic skin reaction.

*Joint submission as intermediate only:*

Aquatic chronic 4; H413: May cause long lasting harmful effects to aquatic life.

**EC-no. 915-333-5:**

Aquatic Acute 1; H400: Very toxic to aquatic life.

Aquatic Chronic 2; H411: Toxic to aquatic life with long lasting effects

The following classifications are in addition notified to the Classification and Labelling Inventory for EC-no. 262-975-0:

Aquatic chronic 2; H411: Toxic to aquatic life with long lasting effects

Skin Sens 1 H317: May cause an allergic skin reaction

Not classified

### 3 JUSTIFICATION FOR THE SELECTION OF THE CANDIDATE CoRAP SUBSTANCE

#### 3.1 Legal basis for the proposal

- Article 44(2) (refined prioritisation criteria for substance evaluation)
- Article 45(5) (Member State priority)

#### 3.2 Grounds for concern

<input type="checkbox"/> Suspected CMR	<input type="checkbox"/> Wide dispersive use	<input checked="" type="checkbox"/> Cumulative exposure
<input type="checkbox"/> Sensitiser	<input type="checkbox"/> Consumer use	<input type="checkbox"/> High RCR
<input checked="" type="checkbox"/> Suspected PBT	<input type="checkbox"/> Exposure of sensitive populations	<input type="checkbox"/> Aggregated tonnage
<input checked="" type="checkbox"/> Suspected endocrine disruptor	<input type="checkbox"/> Other (provide further details below)	

There are a number of closely related substances registered or pre-registered in REACH that conform to the definition of styrenated phenol (containing a phenolic group that is mono-, di- or tristyrenated). All registered substances would be considered together for a category assessment under Substance Evaluation.

##### **PBT**

Styrenated phenol is of potential concern because of its widespread use and high tonnage, and potential for high toxicity to aquatic organisms. Based on available information and screening data, styrenated phenol meets the criteria for very bioaccumulative (vB), persistent (P) and possibly very persistent (vP) in the environment. It is not currently clear if styrenated phenol meets the toxicity PBT criterion due to lack of data, although one of two algal inhibition studies indicates that T might be met.

##### **Tonnage/Risk**

A previous UK national assessment (EA 2009) identified risks for the freshwater aquatic, marine aquatic and terrestrial environment for a number of life-cycle stages. These risks were largely due to the tristyrenated component. There were risks for all relevant stages for freshwater and marine sediments, and for the terrestrial food chain. There is a risk for marine predators in one scenario.

##### **ED**

The substance also has the potential for endocrine disrupting properties and this would require investigation.

##### **Summary**

The purpose of evaluation would be to assess any new data generated since the UK review, investigate the appropriateness of a category assessment approach for similar substances that are registered in REACH, identify specific studies/information to clarify the concerns identified above, and consider the potential for environmental exposure.

### 3.3 Information on aggregated tonnage and uses

<input type="checkbox"/> 1 – 10 tpa	<input type="checkbox"/> 10 – 100 tpa	<input checked="" type="checkbox"/> 100 – 1000 tpa	
<input type="checkbox"/> 1000 – 10,000 tpa	<input type="checkbox"/> 10,000 – 100,000 tpa		
<input type="checkbox"/> 100,000 – 1000,000 tpa	<input type="checkbox"/> > 1000,000 tpa		
<input checked="" type="checkbox"/> Confidential			
<p>The substance is listed both as an intermediate and fully registered on ECHA's dissemination website. The above tonnage band is indicated for both full registrations. The tonnage is not given for the intermediate use only.</p>			
<input checked="" type="checkbox"/> Industrial use	<input type="checkbox"/> Professional use	<input type="checkbox"/> Consumer use	<input type="checkbox"/> Closed System
<p>Uses described on the website are as an anti-oxidant rubber additive, an anti oxidant reagent for polymers and as an intermediate for the manufacture of fine chemicals. The previous review by the Environment Agency also identified that substances of this type are used as the precursor for styrenated phenol ethoxylates (which are used as polyurethane foam stabilizers, in textile treatment and in crop protection products) (EA 2009). The latter use may be as a substitute for nonyl phenol ethoxylate applications.</p>			

### 3.4 Other completed/ongoing regulatory processes that may affect suitability for substance evaluation

<input type="checkbox"/> Compliance check	<input type="checkbox"/> Dangerous substances Directive 67/548/EEC
<input type="checkbox"/> Testing proposal	<input checked="" type="checkbox"/> Existing Substances Regulation 793/93/EEC
<input type="checkbox"/> Annex VI (CLP)	<input type="checkbox"/> Plant Protection Products Regulation 91/414/EEC
<input type="checkbox"/> Annex XV (SVHC)	<input type="checkbox"/> Biocidal Products Directive 98/8/EEC
<input type="checkbox"/> Annex XIV (Authorisation)	<input type="checkbox"/> Other (provide further details below)
<input type="checkbox"/> Annex XVII (Restriction)	
<p>PBT report and Conclusion for transitional dossier submitted by UK in June 2009.</p>	

### 3.5 Information to be requested to clarify the suspected risk

<input type="checkbox"/> Information on toxicological properties	<input type="checkbox"/> Information on physico-chemical properties
<input checked="" type="checkbox"/> Information on fate and behaviour	<input checked="" type="checkbox"/> Information on exposure
<input checked="" type="checkbox"/> Information on ecotoxicological properties	<input checked="" type="checkbox"/> Information on uses
<input type="checkbox"/> Other (provide further details below)	

Further persistence testing might conclude on the substance's properties with respect to vP criteria.

The B potential for the substance was assessed by the Environment Agency (EA 2009) based on a dietary fish bioaccumulation study. The previous interpretation of the study data will need revisiting in light of advances in the understanding of this area as part of substance evaluation.

There is potential for styrenated phenol ethoxylates to break down to the (mono-, di- or tri-) styrenated phenol parent in the environment, so this possible source in the environment may need examining as part of substance evaluation, if these substances are manufactured from this and/or related substances.

There is an apparent mismatch between the uses identified in the Environment Agency assessment (EA 2009) and for this substance and related substances. This will need checking. Clarification of PEC/PNEC risks might be obtained by better information on exposure potential and/or further ecotoxicity tests (e.g. freshwater aquatic). Further freshwater aquatic toxicity information might allow conclusion on the substance's T status in the PBT assessment (after available information on toxicity has been further scrutinised).

An evaluation of data relevant for endocrine effects would be undertaken, and suggestions for any necessary further tests put forward to clarify the situation.

### 3.6 Potential follow-up and link to risk management

<input type="checkbox"/> Restriction	<input type="checkbox"/> Harmonised C&L	<input type="checkbox"/> Authorisation	<input type="checkbox"/> Other (provide further details)
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Difficult to conclude given the complexity of the case.

REFERENCE: EA 2009: D Brooke, J Burns, C Cartwright, A Pearson (2009).  
 "Environmental risk evaluation report: Styrenated phenol", Environment Agency,  
 Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, BS32 4UD, UK.  
 Available at <http://publications.environment-agency.gov.uk/pdf/SCHO1209BRQX-e-e.pdf>