

Substance Name: Trixylyl phosphate

EC Number: 246-677-8

CAS Number: 25155-23-1

SUPPORT DOCUMENT FOR IDENTIFICATION OF

TRIXYLYL PHOSPHATE

**AS A SUBSTANCE OF VERY HIGH CONCERN BECAUSE OF ITS
CMR¹ PROPERTIES**

¹ CMR means carcinogenic, mutagenic or toxic for reproduction

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ABBREVIATIONS

CLP	Classification, labelling and packaging of substances and mixtures
PBT	Persistent, Bioaccumulative, Toxic
SVHC	Substance of very high concern
TXP	Trixylyl phosphate

Substance Name(s): Trixylyl phosphate

EC Number(s): 246-677-8

CAS Number(s): 25155-23-1

- The substance is identified as a substance meeting the criteria of Article 57 (c) of Regulation (EC) 1907/2006 (REACH) owing to its classification as toxic for reproduction category 1B.

Summary of how the substance meets the criteria set out in Article 57 of the REACH Regulation

Trixylyl phosphate (TXP) is covered by index number 015-201-00-9 of Regulation (EC) No 1272/2008 in Annex VI, Part 3, Table 3.1 (the list of harmonised classification and labelling of hazardous substances) for reproductive toxicity, Rep. 1B (H360F: "May damage fertility").

Therefore this classification of the substance in Regulation (EC) No 1272/2008 shows that it meets the criteria for classification as reproductive toxin in accordance with Article 57(c) of REACH.

Registration dossiers submitted for the substance? Yes

JUSTIFICATION

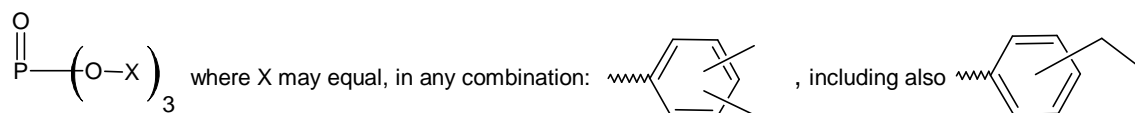
1 Identity of the substance

1.1 Name and other identifiers of the substance

Table 1: Substance identity

EC number:	246-677-8
EC name:	Trixylyl phosphate
CAS number (in the EC inventory):	25155-23-1
CAS number: Deleted CAS numbers:	25155-23-1 95660-61-0 174956-83-3
CAS name:	Phenol, dimethyl-, 1,1',1''-phosphate
IUPAC name:	Trixylyl phosphate
Index number in Annex VI of the CLP Regulation	015-201-00-9
Molecular formula:	C ₂₄ H ₂₇ O ₄ P
Molecular weight range:	410.4425
Synonyms:	Reaction product of phosphorous oxytrichloric acid and xylenols containing tris (dimethylphenyl and/or ethylphenyl) phosphates Trixylenylphosphate Dimethylphenol phosphate (3:1) Phenol, dimethyl-, phosphate (3:1) Phosphoric acid, trixylyl ester Xylenol, phosphate (3:1) Tri-dimethyl phenyl phosphate Tris (dimethylphenol) phosphate Kronitex TXP (Trade name) Phosflex TXP (Trade name)

Structural formula:



1.2 Composition of the substance

Name: Trixylyl phosphate

Description: Organophosphate, viscous colourless liquid

Degree of purity: confidential

1.3 Substance identity

Trixylyl phosphate (TXP) is a UVCB substance containing over 50 different constituents and no additives. It is produced through the reaction of phosphorus oxytrichloride and xylenols. The xylenols (=dimethyl phenols) are present in a distillation fraction of naturally occurring coal tar derivatives which also contains different ethyl phenols. Reaction of the different xylenols and ethyl phenols results in alkylated triphenyl phosphates with a high amount of possible isomers that cannot be easily analysed (see also figure 1). Therefore, the exact composition is unknown. In studies that form the basis for harmonized classification and labelling, the substance was tested as such and the individual constituents are not the basis for the classification.

A more precise chemical naming could be: Reaction product of phosphorous oxytrichloric acid and a mixture of xylenols containing > 95% tri (dimethylphenyl and ethylphenyl) phosphates (ECHA, 2010).

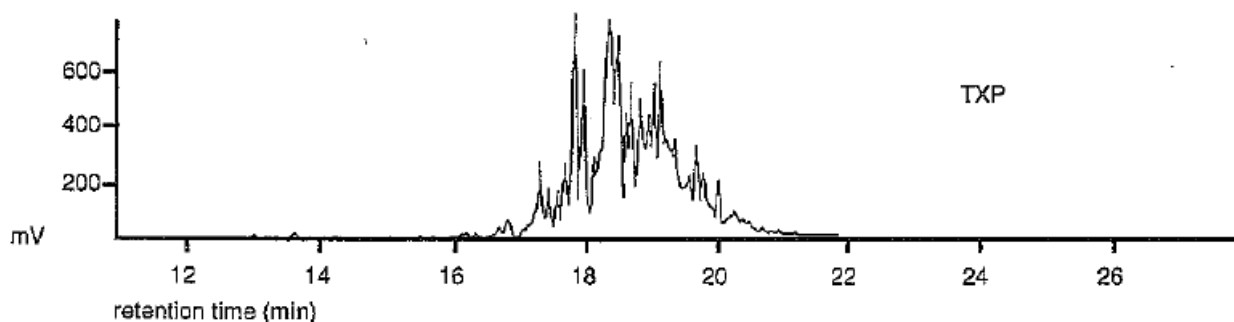


Figure 1: Gas-liquid chromatogram of TXP (Totten, 2000)

According to Nobile (1980), who investigated the composition of two TXP products, the xylyl phosphate isomers (in decreasing order of abundance) 2,5-, 2,3-, 3,5-, 2,4- and 3,4- isomers were present in the products. The 2,6-isomer was not present. Other components identified included 4-ethylphenol, p-cresol, phenol and trimethyl phenol.

None of the xylyl phosphate isomers has a harmonized classification, all but one are notified in the C&L inventory but without a classification for reprotoxicity and they have not been registered yet. For an overview see Table 2.

Table 2: Overview on tris xylenol isomers and their registration and notification status

CAS No	Name	Preregistered (for which deadline)	Registered	Annex VI, CLP	C&L Inventory
121-06-2	tris (2,6-xylenyl) phosphate	-	-	-	Skin Irrit. 2 Eye irrit. 2 STOT SE 3 Aquatic Chronic 4
3862-11-1	tris (3,4- dimethylphenyl) phosphate	-	-	-	
3862-12-2	tris (2,4- dimethylphenyl) phosphate	-	-	-	
65695-97- 8	tris(2,3- dimethylphenyl) phosphate	-	-	-	
19074-59- 0	tris(2,5-xylyl) phosphate	+ (2013)	-	-	
25653-16- 1	tris(3,5-xylyl) phosphate	+ (2013)	-	-	-

This SVHC-Dossier (according to REACH Art. 57c) is restricted to the UVCB compound (CAS 25155-23-1). The harmonized classification of TXP is based on studies with Phosflex TXP (one of the commercial names of TXP, CAS 25155-23-1) (ECHA, 2010). Further risk reduction measures therefore relate to the UVCB substance. In case one of the specific isomers mentioned above will be registered, further steps could be considered at a later stage. At the moment only the UVCB is registered.

2 Harmonised classification and labelling

TXP is covered by index number 015-201-00-9 in Annex VI, part 3 of Reg. (EC) No 1272/2008 as follows:

Classification according to part 3 of Annex VI, Table 3.1 (list of harmonised classification and labelling of hazardous substances) of Regulation (EC) No 1272/2008, amended by Regulation (EC) No 618/2012 (3rd ATP):

Index No	International Chemical Identification	EC No	CAS No	Classification		Labelling			Spec. Conc. Limits, M-factors	Notes
				Hazard Class and Category Code(s)	Hazard statement code(s)	Pictogram, Signal Word Code(s)	Hazard statement code(s)	Suppl. Hazard statement code(s)		
015-201-00-9	trixylyl phosphate	246-677-8	25155-23-1	Repr. 1B	H360F	GHS08 Dgr	H360F			

Classification according to part 3 of Annex VI, Table 3.2 (list of harmonized classification and labelling of hazardous substances from Annex I of Council Directive 67/548/EEC) of Regulation (EC) No 1272/2008, amended by Regulation (EC) No 618/2012 (3rd ATP):

Index No	International Chemical Identification	EC No	CAS No	Classification	Labelling	Concentration Limits	Notes
015-201-00-9	trixylyl phosphate	246-677-8	25155-23-1	Repr. Cat. 2; R60	T R: 60 S: 53-45		

The harmonized classification applies from 1st of December 2013.

3 Environmental fate properties

Not relevant for this dossier.

4 Human health hazard assessment

See section 2 “Harmonised Classification and Labelling” and supplementary information in Annex I.

5 Environmental hazard assessment

Not relevant for this dossier.

6 Conclusions on the SVHC Properties

Trixylyl phosphate (TXP) is covered by index number 015-201-00-9 of Regulation (EC) No 1272/2008 in Annex VI, Part 3, Table 3.1 (the list of harmonised classification and labelling of hazardous substances) for reproductive toxicity, Rep. 1B (H360F: “May damage fertility”).

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