Justification for the selection of a candidate CoRAP substance

Substance Name (Public Name):	p-Xylene
Chemical Group:	
EC Number:	203-396-5
CAS Number:	106-42-3
Submitted by:	Germany
Published:	20/03/2013

NOTE

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

Contents

1 IDENTITY OF THE SUBSTANCE

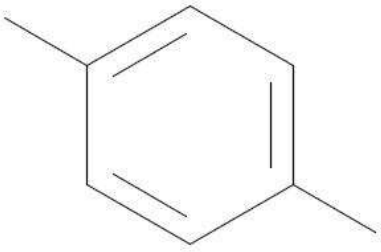
1.1 Name and other identifiers of the substance

Table 1: Substance identity

Public Name:	p-Xylene
EC number:	203-396-5
EC name:	p-Xylene
CAS number (in the EC inventory):	106-42-3
CAS number:	106-42-3
CAS name:	Benzene, 1,4-dimethyl-
IUPAC name:	p-Xylene
Index number in Annex VI of the CLP Regulation	601-022-00-9
Molecular formula:	C8H10
Molecular weight or molecular weight range:	106.165
Synonyms:	1,4-Dimethylbenzene 1,4-Xylene 4-Methyltoluene p-Dimethylbenzene p-Methyltoluene p-Phenylenebis(methylene) p-Xylol

Type of substance ☒ Mono-constituent ☐ Multi-constituent ☐ UVCB

Structural formula:



2 CLASSIFICATION AND LABELLING

2.1 Harmonised Classification in Annex VI of the CLP

CLP classification, Table 3.1

Flam. Liq. 3	H226 : Flammable liquid and vapour.
Acute Tox. 4 *	H312: Harmful in contact with skin.
Skin Irrit. 2	H315: Causes skin irritation.
Acute Tox. 4 *	H332: Harmful if inhaled.

DSD Criteria, Table 3.2

R10: Flammable.
Xn; R20/21: Harmful by inhalation and in contact with skin.
Xi; R38: Irritation to skin.

2.2 Proposal for Harmonised Classification in Annex VI of the CLP

None

2.3 Self classification

CLP criteria:

Classification by the lead registrant followed harmonised classification and additionally includes:

Asp. Tox. 1; H304: May be fatal if swallowed and enters airways.
Eye Irrit. 2; H319: Causes serious eye irritation.
STOT Single Exp. 3; H335: May cause respiratory irritation.

Deviating notified classification and labelling according to CLP criteria:
Flam. Liq. 2; H225: Highly flammable liquid and vapour.
Repr. 2; H361: Suspected of damaging fertility or the unborn child.
STOT SE 3; H336: May cause drowsiness or dizziness.
Aquatic Acute 1; H400: Very toxic to aquatic life.
Aquatic Chronic 1; H410: Very toxic to aquatic life with long lasting effects.

3 JUSTIFICATION FOR THE SELECTION OF THE CANDIDATE CoRAP SUBSTANCE

3.1 Legal basis for the proposal

☒ Article 44(1) (refined prioritisation criteria for substance evaluation)

☐ Article 45(5) (Member State priority)

3.2 Grounds for concern

☒ (Suspected) CMR	☒ Wide dispersive use	☒ Cumulative exposure
☒ (Suspected) Sensitiser	☒ Consumer use	☒ High RCR
☐ (Suspected) PBT	☐ Exposure of sensitive populations	☒ Aggregated tonnage
☐ Suspected endocrine disruptor	☒ Other (provide further details below)	

(a) Possible toxicity to reproduction and developmental neurotoxicity

Based on the registration as a category and the frequent use in mixtures all three isomers and the mixture should be included in the SEV. The substances included in the SEV should comprise the following CAS numbers:
o-xylene: CAS No 95-47-6
m-xylene: CAS No 108-38-3
p-xylene: CAS No 106-42-3
xylenes: CAS No 1330-20-7

Xylenes are volatile organic substances which are produced in high tonnages and have a wide spread use.

For xylenes there is no harmonised classification regarding reproductive toxicity in Annex 1 of the CLP regulation. However, there are self classifications for Repro Cat 2 and Cat 1B available in ECHA's C&L notification data base. For xylenes there is a one-generation study available which possibly does not meet the current requirements to cover the endpoint adequately. The substance evaluation for xylenes should clarify whether further data regarding toxicity to reproduction or possibly a harmonised classification are needed.
While a multi-generation study is missing there are several developmental toxicity studies carried out with mixtures of xylenes. Xylenes were shown to be neurotoxic and ototoxic. This is also reflected in the registration dossiers. It is likely that ototoxic or neurotoxic effects can also be expressed in the developing organism. Apparently none of the developmental toxicity studies covered developmental neurotoxicity in their study design.

(b) Possible suspected sensitiser effect

The registrant provided two skin sensitisation studies using the structurally related substance xylene (LLN assay, OECD 429). The first study reported SI of 3.1. According to the registrant this is false positive since SI of 3.5 is considered as optimal and that of 8-11 as true positive (by referring recent evaluation Basketter et al., 1999). However based on LLNA SI of ≥3 is considered as positive for skin sensitisation potential. The second study reported statistically significant increase in ear-draining lymph node weight and cell count (indicative of a sensitisation response) in 7 of the 9 laboratories involved in the trial and an increase in ear weight (indicative of irritation) in 3 of 9 laboratories. According to the registrant this is false positive and resulted due-to to the irritant effect of the substance. Overall, there is suspected sensitisation effect of the substance and needs further investigation.

(c) Wide and dispersive use, consumer use and high workers exposure

Some of the identified professional and consumer uses show high risk characterisation ratios (> 0.5).

(d) High aggregated tonnage

The intention is to scrutinize the CSA regarding relevant uses and exposure scenarios (worker, professional and consumer) and to evaluate the exposure assessments as well as the practised risk management measures to conclude whether further risk management will be needed. The German CA intends to evaluate the xylenes in 2015.

3.3 Information on aggregated tonnage and uses

☐ 1 – 10 tpa	☐ 10 – 100 tpa	☐ 100 – 1000 tpa
☐ 1000 – 10,000 tpa	☒ 10,000 – 100,000 tpa	
☐ 100,000 – 1000,000 tpa	☒ 1,000,000 – 10,000,000 tpa	☐ > 10,000,000 tpa
☐ Confidential		
Note: there are two registrations with the above mentioned tonnage bands.		

☒ Industrial use	☒ Professional use	☒ Consumer use	☐ Closed System

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

☐ Compliance check	☐ Dangerous substances Directive 67/548/EEC
☐ Testing proposal	☐ Existing Substances Regulation 793/93/EEC
☐ Annex VI (CLP)	☐ Plant Protection Products Regulation 91/414/EEC
☐ Annex XV (SVHC)	☐ Biocidal Products Directive 98/8/EEC
☐ Annex XIV (Authorisation)	☐ Other (provide further details below)
☐ Annex XVII (Restriction)	
Please provide further details	

3.5 Information to be requested to clarify the suspected risk

☐ Information on toxicological properties	☐ Information on physico-chemical properties
☐ Information on fate and behaviour	☐ Information on exposure
☐ Information on ecotoxicological properties	☐ Information on uses
☐ Other (provide further details below)	
Please provide further details	

3.6 Potential follow-up and link to risk management

☐ Restriction	☐ Harmonised C&L	☐ Authorisation	☐ Other (provide further details)
The substance evaluation is performed with an open outcome. The most appropriate follow-up measure can not be predicted so far.			