

TC NES SUBGROUP ON IDENTIFICATION OF PBT AND VPVB SUBSTANCES

RESULTS OF THE EVALUATION OF THE PBT/VPVB PROPERTIES OF:

Substance name: Anthracene oil

EC number: 292-602-7

CAS number: 90640-80-5

Molecular formula: Not applicable

Structural formula: Not applicable

Summary of the evaluation:

Anthracene oil is considered to be a UVCB substance with PBT/vPvB constituents. The constituent anthracene (CAS 120-12-7 ; see PBT summary No. 32) is a PBT and vPvB substance.

JUSTIFICATION

1 IDENTIFICATION OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES

Name: Anthracene oil
EC Number: 292-602-7
CAS Number: 90640-80-5
IUPAC Name:
Molecular Formula: Not applicable
Structural Formula: Not applicable
Molecular Weight: Not applicable
Synonyms: Anthracene fraction

1.1 PURITY/IMPURITIES/ADDITIVES

Anthracene oil is a UVCB substance. Following indicative composition of light anthracene oil has been reported by Frank and Stadlhofer (1987):

Component	% (w/w)
Dimethynaphthalenes	0.7
Acenaphthenes	3.1
Dibenzofuzan	4.0
Fluorene	7.7
Methylfluorene	10.6
Dibenzothiophene	1.9
Anthracene	5.8
Phenanthrene	18.8
Carbazole	3.8
Methylphenanthrenes	12.3
Fluoranthenes	8.0
Pyrene	4.1
Other aromatics	19.2

1.2 PHYSICO-CHEMICAL PROPERTIES

Table 1 Summary of physico-chemical properties. For details and references, see European Commission (2000)

REACH ref Annex, §	Property	Value	Comments
VII, 7.1	Physical state at 20 C and 101.3 Kpa	Solid, liquid	European Commission (2000)
VII, 7.2	Melting/freezing point	< 80°C	Tarconord (1994)
VII, 7.3	Boiling point	> 270°C (at 1013.25 Pa)	Tarconord (1994)
VII, 7.5	Vapour pressure		
VII, 7.7	Water solubility		
VII, 7.8	Partition coefficient n-octanol/water (log value)		
	Dissociation constant	-	

For properties where no data are presented, physical-chemical properties of constituents have been reported by the notifiers.

2 MANUFACTURE AND USES

Anthracene oil is produced via distillation of coal tar, high temperature (65996-89-6). Eight companies have provided information on the substance under Regulation 93/793/EEC according to the IUCLID (European Commission, 2000). Anthracene oil is extracted from coal tar in light oil and heavy oil fractions.

Anthracene oil is used for the production of anthracene, for impregnation agents and solvents (European Commission, 2000).

3 CLASSIFICATION AND LABELLING

Anthracene oil is classified as carcinogenic (Cat 2), R45 in the Directive 67/548/EEC (with nota H).

4 ENVIRONMENTAL FATE PROPERTIES

Environmental fate of anthracene oil depends on the properties of its constituents. For fate properties of anthracene, pyrene and phenanthrene, see the PBT summary fact sheets of anthracene (CAS 120-12-7) and coal tar pitch, high temperature (CAS 65996-93-2).

4.1 DEGRADATION (P)

4.1.1 Abiotic degradation

4.1.2 Biotic degradation

4.1.3 Other information ¹

4.1.4 Summary and discussion of persistence

4.2 ENVIRONMENTAL DISTRIBUTION

4.2.1 Adsorption

4.2.2 Volatilisation

4.2.3 Long-range environmental transport

4.3 BIOACCUMULATION (B)

4.3.1 Screening data²

4.3.2 Measured bioaccumulation data³

4.3.3 Other supporting information⁴

4.3.4 Summary and discussion of bioaccumulation

¹ For example, half life from field studies or monitoring data

² For example, log K_{ow} values, predicted BCFs

³ For example, fish bioconcentration factor

⁴ For example, measured concentrations in biota

5 HUMAN HEALTH HAZARD ASSESSMENT

Data not reviewed for this report.

6 ENVIRONMENTAL HAZARD ASSESSMENT

There are no data available on the ecotoxicity of anthracene oil. For ecotoxicity of its constituents, see the PBT summary fact sheets of anthracene (CAS 120-12-7) and coal tar pitch, high temperature (CAS 65996-93-2).

6.1 AQUATIC COMPARTMENT (INCLUDING SEDIMENT)

6.1.1 Toxicity test results

6.1.1.1 Fish

Acute toxicity

Long-term toxicity

6.1.1.2 Aquatic invertebrates

Acute toxicity

Long-term toxicity

6.1.1.3 Algae and aquatic plants

6.1.2 Sediment organisms

6.1.3 Other aquatic organisms

6.2 TERRESTRIAL COMPARTMENT

6.3 ATMOSPHERIC COMPARTMENT

7 PBT AND VPVB

7.1 PBT, VPVB ASSESSMENT

Summary: anthracene oil is considered to be a UVCB substance with PBT/vPvB constituents. The constituent anthracene (CAS 120-12-7; see PBT summary No. 32) is considered to be a PBT and vPvB substance.

INFORMATION ON USE AND EXPOSURE

Data not reviewed for this report.

OTHER INFORMATION

The information used in this report was taken from the following source:

European Commission (2000) IUCLID Dataset, anthracene oil, CAS 90640-80-5, 19.2.2000.