

1 July 2015

Background document for pitch, coal tar, high temp.

Document developed in the context of ECHA's 6th recommendation for the inclusion of substances in Annex XIV

ECHA is required to regularly prioritise the substances from the Candidate List and to submit to the European Commission recommendations of substances that should be subject to authorisation. This document provides background information on the prioritisation of the substance, as well as on the determination of its draft entry in the Authorisation List (Annex XIV of the REACH Regulation). Information comprising confidential comments submitted during public consultation, or relating to content of Registration dossiers which is of such nature that it may potentially harm the commercial interest of companies if it was disclosed, is provided in a confidential annex to this document.

1. Identity of the substance

Chemical name: Pitch, coal tar, high temp.
EC Number: 266-028-2
CAS Number: 65996-93-2
IUPAC Name: Not applicable

2. Background information for prioritisation

Priority was assessed by using the General approach for prioritisation of SVHCs for inclusion in the list of substances subject to authorisation¹. Results of the prioritisation of all substances included in the Candidate List on 20 June 2013 or before and not yet included or recommended in Annex XIV of the REACH Regulation is available at http://echa.europa.eu/documents/10162/13640/prioritisation_results_6th_rec_en.pdf

The prioritisation results of the substances included in the draft 6th recommendation have been updated as necessary after the public consultation. The updated results are available at http://echa.europa.eu/documents/10162/13640/updated_prioritisation_results_6th_axiv_rec_en.pdf.

2.1. Intrinsic properties

Pitch, coal tar, high temp. (CTPHT) was identified as a Substance of Very High Concern (SVHC) according to article 57 a, d and e of Regulation (EC) No 1907/2006 (REACH) and was therefore included in the Candidate List for authorisation on 13 January 2010, following ECHA's decision ED/68/2009.

CTPHT is classified in Annex VI, part 3, Table 3.1 (the list of harmonised classification and labelling of hazardous substances) of Regulation (EC) No 1272/2008 as Carcinogenic, Category 1B, H350 ("May cause cancer").

¹ Document can be accessed at http://echa.europa.eu/documents/10162/13640/gen_approach_svhc_prior_in_recommendations_en.pdf

In addition, on the basis of the PBT and vPvB properties of some of its PAH-constituents, CTPHT fulfils the PBT and the vPvB criteria according to article 57 d and e of the REACH Regulation.

2.2. Volume used in the scope of authorisation

The amount of CTPHT manufactured and/or imported into the EU is according to registration data in the lower part of the range 1,000,000 - 10,000,000 t/y². A small share of the tonnage is reported as being exported outside the EU.

One sector association commenting during the public consultation on the draft 6th recommendation (ComRef, 2015) indicates an actual tonnage manufactured and/or imported in EU of approximately 800,000 – 900,000 t/y, of which 320,000 t are directly exported (data collection from year 2013).

Some uses appear not to be in the scope of authorisation, such as the use as intermediate in the manufacture of carbon black.

Based on registrations and further information sources the volume for uses in the scope of authorisation (e.g. formulation of mixtures, uses in clay targets, uses in mixtures for corrosion protection, uses in metallurgic smelting, uses in refractory products) is estimated to be >10,000 t/y.

2.3. Wide-dispersiveness of uses

Registered uses of CTPHT in the scope of authorisation include:

- uses at industrial sites (formulation of mixtures; use as binding agent in metallurgic smelting, refractories and for clay pigeons; formulation and use as anti-corrosion agent in (specialty) coatings, paints and adhesives), and
- uses by professional workers (e.g. use as anti-corrosion agent in (specialty) coatings, paints, adhesives and sealants).

Furthermore, the substance is used in articles (e.g. clay targets, coated articles) in volumes > 10 t/y.

² Registration information last consulted on 1 December 2014

2.4. Conclusions and justification

Verbal descriptions and Scores			Total Score
Inherent properties (IP)	Volume (V)	Wide dispersiveness of uses (WDU)	(= IP + V + WDU)
CTPHT is classified as carcinogenic Cat. 1B and it is identified as PBT and vPvB (meeting the criteria 57 a, d and e) Score: 15	The amount of CTPHT used in the scope of authorisation is > 10,000 t/y. Score: 15	CTPHT is used at industrial sites and by professional workers. Initial score: 10 Furthermore, the substance is used in articles in volumes > 10 t/y. Refined score: 12	42

Conclusion

On the basis of the prioritisation criteria, Pitch, coal tar, high temp. receives high priority among the substances in the Candidate List (refer to link to the prioritisation results above). Therefore, Pitch, coal tar, high temp. is recommended for inclusion in Annex XIV.

3. Further information on uses

Registered uses of CTPHT includes:

- Formulation steps in different industrial sectors such as:
 - in the aluminium and/or Calcium carbide industry (formulation of green Söderberg briquettes, green anodes, collar paste)
 - in the refractory supply chain (formulation of green unshaped and shaped refractory products, impregnation of refractory products)
 - in the carbon and graphite industry (formulation of green cathodes, lining blocks and briquettes; formulation of green pastes)
 - in the active carbon supply chain (formulation of untempered products)
 - in the production of carbon black (formulation of mixtures where CTPHT is further used as intermediate)
 - for the formulation of clay targets
 - for the formulation of paints, coatings, sealant, waterproofing materials and adhesives
 - for the formulation of fuel (further uses in industrial heavy diesel engines)
- Industrial end-uses such as:
 - in the aluminium industry and/or Calcium carbide industry (black anodes production; aluminium production by the prebaked method; aluminium and calcium carbide production by the Söderberg method)
 - in the refractory supply chain (production of tempered shaped refractory products; end-use of refractory products)
 - in the carbon and graphite industry (production of black cathodes and lining blocks)
 - in the active carbon supply chain (production of tempered active carbon products)
 - in the metallurgic smelting industry for the production of metals and metal alloys

- production of carbon black
- production of clay targets
- use of paints, coatings, sealants, waterproofing materials and adhesives
- use as fuel / for industrial energy production

Industrial uses in the electro-steel industry, use for the production of pure substances and use in laboratory activities are also reported.

- Professional end-uses such as the use of paints, coatings, sealants, waterproofing materials and adhesives

Furthermore the service life step is relevant due to the incorporation of CTPHT in e.g. clay targets or on articles where used e.g. in paints or coatings.

In registrations, uses are described by mean of the so-called 'use descriptors'. The Environmental Release Categories (ERCs) provide information on whether the use described can be considered intermediate: ERC6a (industrial use resulting in manufacture of another substance (use of intermediates)) is to be used for the description of intermediate uses.

The following uses are reported with ERC6a:

- in the aluminium industry and/or Calcium carbide industry: black anodes production
- in the refractory supply chain: production of tempered shaped refractory products
- in the carbon and graphite industry: production of black cathodes and lining blocks
- in the active carbon supply chain: production of tempered active carbon products
- production of carbon black

Other uses are reported using ERCs incompatible with the description of intermediate uses³ e.g. production of metals and metal alloys in the metallurgic smelting industry, aluminium production by the prebaked method; aluminium and calcium carbide production by the Söderberg method.

Further information on uses and on tonnage per uses has been provided during the public consultation on the draft 6th recommendation (ComRef, 2015) and is summarised in table 1 below. According to the submitter all the industrial uses of CTPHT except the use in the production of clay targets and the uses in paints, coatings, sealants, waterproofing materials and adhesives are generically exempted from authorisation requirement (e.g. intermediate uses, use in fuel).

Based on the information available ECHA considers however that some of the uses described as intermediate are likely not to fulfil the definition (e.g. Uses in refractories).

With regards uses in electrodes indications have been received supporting the fact that they may fulfil the definition of intermediate therefore the volume allocated to this use as not been considered for the purpose of priority scoring. It is recognised however that the intermediate/non-intermediate status of these uses is a complex issue, and stressed that this prioritisation exercise is not taking a formal position whether certain uses of substances are regarded as uses as intermediates in accordance with the definition in Art. 3(5).

³ e.g. ERC6b (industrial use of reactive processing aids)

Table 1: Summary of CTPHT uses and tonnage per use based on comment received during the public consultation on the 6th draft Recommendation (ComRef, 2015)

Uses	Volume (t/y)
Intermediate uses	
Manufacture of ' pitch coke ', correctly named 'Coke (coal tar), high temp.pitch (CAS 140203-12-9) ⁴ in the following sectors/for the following processes <ul style="list-style-type: none"> - In the aluminium industry: in the production of binder for prebake anodes , for cathodes / cathodes ramming paste, for Söderberg electrodes; in the production of collar paste for prebake anodes - In the steel industry: in the production of binder for graphite electrodes - In the metallurgical processes, CaC₂: in the production of binder for prebake electrodes, for Söderberg electrodes, for shaped refractories, for furnace lining paste, for top hole paste and runner mix - In the carbon and graphite industry: in the production of carbon/graphite specialities - in the active carbon supply chain: in the production of binder for activated carbon - In the refractory supply chain: in the production of binder for carbonised refractory products - In the production of impregnating agent for graphite electrodes, graphite electrodes connectors (nipples) and for refractories 	510,000
Manufacture of carbon black (CAS 1333-86-4)	40,000
Manufacture of other substances	40,000
Other use exempted from authorisation	
Use as fuel	1,000
Non intermediate uses	
Binder for clay targets	15,000
Binder for airport driveway repair work Heavy-duty corrosion protection	Ca. 2,000

Aluminium industry is reported as by far consuming the largest CTPHT volume (60-70%) (ComRef, 2015).

⁴ Claimed as being exempt from REACH registration and authorisation requirements under Annex V.

As far as the complexity of supply chains is concerned, it appears that, depending on the specific uses of CTPHT, they can be rather simple (i.e. with rather limited number of levels, of parallel supply strands and/or number of actors) to rather complex, mainly when involving either different industry sectors or a high number of actors (Annex XV report, 2009; ComRef, 2015).

4. Background information for the proposed Annex XIV entry

Draft Annex XIV entries were determined on the basis of the General approach for preparation of draft Annex XIV entries for substances to be included in Annex XIV⁵. The draft Annex XIV entries for substances included in the 6th recommendation are available at http://echa.europa.eu/documents/10162/13640/6th_axiv_recommendation_july2015_en.pdf. The section below provides background for allocation of the substance to the Latest Application Dates slots.

The LAD slots are set in 3 months intervals (normally 18, 21 and 24 months after inclusion in Annex XIV but more slots can be considered on a case-by-case basis).

Anthracene oil and pitch, coal tar, high temp. have been considered to be placed in the same slot as they may fulfil the definition of a group according to section 1.5 of Annex XI of REACH (provision allowing submitting common applications for authorisation).

Allocation of (group of) substances to LAD slots aims at an even workload for all parties during the opinion forming and decision making on the authorisation applications. All substances can therefore not be set at the same LAD. ECHA proposes to allocate those substances to the "later" LAD slots (21 months or more) for which the available information indicates a relatively high number of uses. Substances with no registration requirement are also allocated to the later slots.

Based on rough indicators (such as the number of registered uses within the scope of authorisation, number of registrants, and number and type of SVHC endpoints), processing of applications is anticipated to be of higher workload in particular for two groups of substances among the substances included in the final 6th recommendation. Those groups, comprising the two above coal-stream-substances and borates, are therefore proposed to be allocated at separate LAD slots.

For anthracene oil and pitch, coal tar, high temp., although the supply chain is not simple, preparation of an application may still require shorter time in comparison with the boron substances which have probably higher number of uses and higher (overall) supply chain complexity. Therefore anthracene oil and pitch, coal tar, high temp. are assigned in the 2nd LAD slot (i.e. 21 months after the inclusion in Annex XIV).

⁵ Document can be accessed at http://echa.europa.eu/documents/10162/13640/draft_axiv_entries_gen_approach_6th_en.pdf

5. References

Annex XV report (2009): Proposal for identification of a substance as a CMR, PBT, vPvB or a substance of an equivalent level of concern. Pitch, coal tar, high temp. Submitted by ECHA on behalf of the Commission, August 2009.
<http://echa.europa.eu/documents/10162/8b23f02f-452d-459b-a043-76cba8104dbe>

RCOM (2009): "*Responses to comments*" document. Document compiled by ECHA from the commenting period 31/08/2009-15/10/2009 on the proposal to identify Pitch, coal tar, high temp. as a Substance of Very High Concern.
<http://echa.europa.eu/documents/10162/661eb91f-329f-40a7-be8c-30d5494014ee>

ComRef (2015): "*Responses to comments*" document. Document compiling comments and respective answers from commenting period 01/09/2014-01/12/2014 on ECHA's proposal to include Pitch, coal tar, high temp. in the 6th recommendation of priority substances for inclusion in the list of substances subject to authorisation
http://echa.europa.eu/documents/10162/13640/6th_axiv_rec_comref_CTPHT_en.pdf