HSPA HYDROCARBON SOLVENTS PRODUCERS ASSOCIATION

Position Paper

How to classify formulations containing hazardous Hydrocarbon Solvents?

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Background

Downstream users (DU) are facing some difficulties when using the new extended safety data sheets of hydrocarbon solvents to classify their end-use formulations.

Prior to REACH[1], hydrocarbon solvents were broadly described by petroleum CAS numbers and their related EINECS numbers. The classification and labeling under the Dangerous Substance Directive (DSD[2]) and the Dangerous Preparation Directive (DPD[3]) were dictated by these CAS numbers with the application of the nota's. The nota's covered certain trigger substances that needed to be considered in the final classification. The safety data sheets disclosed the marker constituents that triggered classification of the substance as well as the concentration of these markers. Exposure Limits (OELs) were calculated using the RCP (Reciprocal Calculation Method) and documented in the RCP Manual (Ref [4]). This data was used by the formulator to determine the concentration of the marker in the final formulation and hence the classification of the final product. By dilution effect, it could be that the final product was not classified.

With REACH entering into force, the hydrocarbon solvent is now identified as a substance and/or a complex substance, referred as UVCB (Substances of **U**nknown or **V**ariable composition, **C**omplex reaction products or **B**iological materials), the name of which is described according to the new HSPA naming convention[5]. This new naming has the advantage of representing more accurately the substance. The REACH extended safety data sheet discloses the substance with its new name associated to a new provisional EC number. Consequently the substance is classified as a whole based on the EU CLP[6] regulation criteria, already taking into account the marker(s) concentration(s). This situation may lead to have on the market place similar formulations from DU's classified differently.

HSPA Position

This guidance is to support DU in classifying their formulations.
HSPA is supportive of classifying formulations containing hydrocarbon solvents on the basis of the marker(s) concentration(s) of the hydrocarbon solvent and not on the basis of the whole hydrocarbon solvent substance.

The hydrocarbon naming convention introduced by the HSPA includes the presence of relevant “classification” markers as part of each substance description (see examples in Annex). For each substance description, the classification has again been evaluated and determined within the boundary limits set by the description. This approach eliminates the need to assign individual nota’s for each substance, and furthermore also eliminates the need to disclose individual constituents.

The concentration of each marker in the final formulation should be calculated based on the weight% of each substance in the formulation and on the weight% of the marker in the substance. Alternatively the marker concentration can be measured by analytical test in the final formulation. On the basis of this concentration, the DU can then apply the EU CLP classification criteria for mixtures, like they were applying before the DPD classification criteria for preparations. Marker concentration is available in Section 3 of the extended safety datasheet; If not DU’s can contact their supplier for additional information.

To note that other classifications such as flammability and aspiration hazard should be calculated using the whole substance.

REFERENCES

[1] REACH: Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

[2] DSD: Directive 67/548/EEC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances.

[3] DPD: Directive 1999/45/EC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous preparations.

[4] RCP OEL Manual - OELs of common solvents in the marketplace.

[5] “Substance identification and naming convention for hydrocarbon solvents under REACH”, ESIG web site: www.esig.org.

[6] CLP: Regulation (EC) No 1272/2008 on Classification, Labeling and Packaging of substances and mixtures.

ANNEX

Examples of HSPA naming convention for two substance categories

The triggering markers for classification of the substances cited below are respectively: "n-hexane" for the C6 Aliphatics category and "naphthalene" for the C10-12 Aromatics category.

HSPA Substance Name	Reach Registration provisional EC #.
C6 Aliphatics	
Normal-Hexane	203-777-6
Hydrocarbons, C6, isoalkanes, <5% n-hexane	931-254-9
Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich	925-292-5
Hydrocarbons, C6-C7, isoalkanes, cyclics, < 5% n-hexane	926-605-8
Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich	930-397-4
C10-12 Aromatics	
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0
Hydrocarbons, C10, aromatics, <1% naphthalene	918-811-1
Hydrocarbons, C10-C13, aromatics, <1% naphthalene	922-153-0
Hydrocarbons, C10-C13, aromatics, >1% naphthalene	926-273-4