

# HYDROCARBON SOLVENTS IN THE CONTEXT OF REACH AND CLP

## Development of Categories and Naming Convention

The Hydrocarbon Solvents Producers Association (HSPA) has elaborated a category approach for hydrocarbon solvents to include similar physicochemical and toxicological properties for the dossier preparation of each category. A naming system has been developed to characterise hydrocarbon solvents as a substance, in order to properly identify similar substances in accordance with the REACH regulation.

The category approach has enabled groups of similar hydrocarbon solvents, which are mostly UVCBs (Unknown, Variable, Complex or Biological substances) with similar physical/chemical properties and toxicology, to be submitted within one dossier.

The naming convention for hydrocarbon solvents has many benefits for manufacturers and downstream users.

1. It allows classification and labelling of hydrocarbon solvents to be based on the known toxicology of a substance.
2. It sets a new standard in classification and labelling directly aligned with the substance.
3. It enables clear and specific user advice to be issued in the Chemical Safety Report (CSR).
4. It breaks the reliance on process descriptions and generic classifications that have been historically based on less refined petroleum streams and their associated toxicology.
5. It eliminates the need to justify 'non' classifications using notas in Europe.
6. Though it severs existing links with CAS (Chemical Abstract Services) numbers in Europe, these still remain outside the EU.



## How Naming Convention and Classification works

To illustrate the naming convention and the classification process, an example using a typical hydrocarbon solvent, such as a low-aromatic medium-range distillate, is shown below.

### CATEGORY 9: C14-C20 Aliphatics (<=2% Aromatics)

This category includes the following named hydrocarbons:

Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics
Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics
Hydrocarbons, C16-C20, n-alkanes, isoalkanes, cyclics, <2% aromatics
Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics

By reviewing the toxicology for the named example below

### Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics

the classification appears as follows (please see picture on the right).

CLASSIFICATION (1999/45)	Xn;R65. R66
CLASSIFICATION (EC) NO. 1272/2008	
Physical	Not classified.
Health	EUH066; Asp. Tox. 1 - H304
Environmental	Not classified.
LABEL IN ACCORDANCE WITH (EC) NO. 1272/2008	
CONTAINS	Hydrocarbons, C14-C18, n-alkanes, isoalkanes cyclics, <2% aromatics
HAZARD STATEMENTS	
EUH066	Repeated exposure may cause skin dryness or cracking.
H304	May be fatal swallowed and enters airways.
PRECAUTIONARY STATEMENTS	
P301	IF SWALLOWED:
P313	Get medical advice/attention.
P403	Store in a well-ventilated place.
SUPPLEMENTARY PRECAUTIONARY STATEMENTS	
P331	Do NOT induce vomiting.
ENVIRONMENT	
The product is not classified as hazardous to the environment according to regulation (EC) NO. 1272/2008.	

## Working with Mixtures

Mixtures (previously known as preparations) of more than one solvent, or in combination with other materials, must be classified according to the rules in the CLP regulations using the classification of the substances (as shown on the SDS) to derive the appropriate final mixture classification. To ensure that downstream users have access to the appropriate information as soon as possible, it is the intention of the majority of HSPA members to rapidly begin the classification of hydrocarbon solvent mixtures, certainly well before the June 2015 deadline.

## Guiding Principles

It is important to remember that each classification is based on the toxicology of the actual substance, the details of which can be found in the REACH dossier. HSPA and the HCSC (Hydrocarbon Solvents Consortium) have reviewed all of the common solvents within the categories and have reclassified all materials according to CLP rules.

This approach has shown that, for the majority of existing common hydrocarbon solvents, there are no changes to their classification when moving to CLP.

## Conclusion

By developing a hydrocarbon naming convention, HSPA has ensured that the classification and labelling requirements of each substance are fully aligned with the toxicology of each material. This approach is entirely in line with the REACH process for submission of dossiers containing UVCB substances. All the hydrocarbon categories have been registered.

It should be noted, however, that outside Europe, the use of CAS numbers remains the standard method of reference for classification. For this reason, related CAS numbers will appear on Safety Data Sheets from your manufacturer.