

Waste: Dangerous or not dangerous?

- Waste which is classified by the waste generator in a waste code with (*) in EU or (DD) in Marokko is in general dangerous
- Waste which is classified by the waste generator in a waste code without (*) in EU or (DD) in Marokko is in general not dangerous
- But how to classify?
- This needs the knowledge about the correct potential of danger of the different waste components and their concentration
- This classification has to be done regarding the EU directive 91/689 which is based on the directive 67/548 EWG

Waste: Dangerous or not dangerous?

- All chemicals which came since 2011 to market has to be classified regarding the new Global Harmonized System (GHS/CLP)
- All mixtures of hazardous substances , which will come 2015 to market has to be classified regarding GHS/CLP
- But because of transition periods the classification of all Substances in Market may be either regarding the old or the new hazardous classification system
- How to classify wastes, which contain that dangerous products with different hazard systems?
- We have developed a simple and easy tool to do so.

Different notifications

Dangerous wastes :

H-classes

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Dangerous substances : „New regulation GHS/CLP“:

GHS-Pictogramme+ H-phrases

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Dangerous substances: „old regulation“:

Danger-Pictogramme+ R-Phrases.

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Translation H-classes (Hazardous Waste Directive) to R-phrases

| | |
|---------------------------------|-----|
| R2, R3 | H1 |
| R7, R8, R9 | H2 |
| R12 | H3A |
| R11, R15, R17 | H3A |
| R10 | H3B |
| R26, R27, R28, R39 [†] | H6 |

Translation R-classes to H-Phrases (GHS)

| | | | | | |
|--|--|-------------------------------------|-------------|--------------------------|--|
|  <p>Gefahr</p> | Ätz-/Reizwirkung auf die Haut, Kategorie | 1A 1B 1C | H314 | R35 R34 | C  <p>Ätzend</p> |
| | Schwere Augenschädigung/Augenreizung, Kategorie | 1 | H318 | R41 | Xi  <p>Reizend</p> |

Translation R-classes to H-Phrases (GHS)

| | | | | | | |
|--|-----------------------------------|-----------|-------------|-------------|-----|---|
|  Gefahr | Akute Toxizität, Kategorie | oral | 1, 2 | H300 | R28 | T+  Sehr giftig T  Giftig |
| | | dermal | | H310 | R27 | |
| | | inhalativ | | H330 | R26 | |
| | | oral | 3 | H301 | R25 | |
| | | dermal | | H311 | R24 | |
| | | inhalativ | | H331 | R23 | |

Translation R-classes to H-Phrases (GHS)

| | | | | | | |
|---|---|------------------|---|-------------------|------------------|--|
|  Achtung | Akute Toxizität, Kategorie | oral | 4 | H302 | R22 ² | X_n  Gesundheits-schädlich |
| | | dermal | | H312 | R21 ² | |
| | | inhalativ | | H332 | R20 ² | |
| | Ätz-/Reizwirkung auf die Haut, Kategorie | | 2 | H315 | R38 | |
| | Schwere Augenschädigung/-reizung, Kategorie | | 2 | H319 | R36 | |
| | Sensibilisierung der Haut, Kategorie | | 1 | H317 | R43 | |
| | Spezifische Zielorgan-Toxizität (einmalige Exposition), Kategorie | Atemwegs-reizung | 3 | H335 | R37 | X_i  Reizend |
| na rko tisierende Wirkungen | | H336 | | R67 (ohne Symbol) | | |


Translation R-classes to H-Phrases (GHS)

| | | | | | |
|---|---|---------------|-------------------------|------------------|---|
|  <p>Gefahr Achtung</p> | Sensibilisierung der Atemwege, Kategorie | 1 | H334 | R42 | <p>T</p>  <p>Giftig</p> <p>Xn</p>  <p>Gesundheitsschädlich</p> |
| | Keimzellmutagenität, Kategorie | 1A, 1B | H340 | R46 | |
| | Karzinogenität, Kategorie | 2 | H341 | R68 | |
| | | 1A, 1B | H350³ | R45, R49 | |
| | Reproduktionstoxizität, Kategorie | 2 | H351 | R40 | |
| | | 1A, 1B | H360⁴ | R60, R61 | |
| | Zusatzkategorie für Wirkungen auf/über Laktation | | H361¹ | R62, R63 | |
| | Spezifische Zielorgan-Toxizität (einmalige Exposition), Kategorie | | H362⁵ | R64 | |
| | | 1 | H370 | R39 ⁶ | |
| | Spezifische Zielorgan-Toxizität (wiederholte Exposition), Kategorie | 2 | H371 | R68 ⁷ | |
| 1 | | H372 | R48 ⁸ | | |
| Aspirationsgefahr, Kategorie | 2 | H373 | R33, R48 ⁹ | | |
| | 1 | H304 | R65 | | |


Translation R-classes to H-Phrases (GHS)

| | | | | |
|---|---------------------------------|--------------------------------------|-------------|------------------------------------|
|  Achtung | Gase unter Druck, Gruppe | verdichtetes Gas | H280 | bisher nicht gekennzeichnet |
| | | verflüssigtes Gas | H280 | |
| | | Tiefgekühlt verflüssigtes Gas | H281 | |
| | | gelöstes Gas | H280 | |

Translation R-classes to H-Phrases (GHS)

| | | | | |
|---|---|----------|-------------|------------------------------------|
|  Achtung | Korrosiv gegenüber Metallen, Kategorie | 1 | H290 | bisher nicht gekennzeichnet |
|---|---|----------|-------------|------------------------------------|

Translation R-classes to H-Phrases (GHS)

| | | | | | |
|--|---|---|-------------------------|-------------------------|--|
|  Achtung | Akut gewässergefährdend der Kategorie | 1 | H400 | R50 R50/53 |  N Umwelt- gefährlich |
| | Chronisch gewässergefährdend der Kategorien | 1 | H410 | R50/53 | |
| | | 2 | H411² | R51/53 | |
| | | 3 | H412³ | R52/53 (ohne Symbol) | |
| | | 4 | H413³ | R53 (ohne Symbol) | |
|  Achtung | Die Ozonschicht schädigend | | H420 | R59 | |

Too complicated?

Not with a tool, which integrates all that different notifications:

Dangerous Waste Matrix:

1. Identification of Composition of waste (crude estimation regarding knowledge about waste)
2. Identification of hazardous properties of composition elements with safety data sheets

http://www.merckmillipore.fr/is-bin/INTERSHOP.enfinity/WFS/Merck-FR-Site/fr_FR/-/EUR/ViewSearch-SearchMSDS?CountryName=France

3. Analysis with the dangerous waste matrix programme

- [Waste Matrix GHS CLP D E F.xls](#)