

The summation rule (see Note 4 to Annex I of Seveso III-Directive) is to be applied three times to assess consecutively the Health hazards (H), the Physical hazards (P), and the Environmental hazards (E).

The summation covers, for each of the the mentioned hazards, both the categories in Part 1 of Annex I, and the named substances in Part 2 fo Annex I.

In order to allow for such summation, the hazard category (health, physical, environment) is defined for each named substance in the second column of the below table.

Strictly, Part 2 of Annex I does not sytematically contain a unique “named substance”, but sometimes refers to a subcategory (e.g. “carcinogens”) or a family (PCB’s) of substances. As a consequence, the hazard categories (health, physiscal, environment) for summation also needs to be defined for these subcategories or families.

The below table details (in **red**) for each of the named substances which hazards are considered for summation. For most named substances, the information is available via the harmonized classification.

Where relevant, a **green** comment was added for detailed motivation.

Column 1	H = HEALTH P = PHYSICAL E = ENVIRONM	CAS number	Qualifying quantity (tonnes)for the application of	
Dangerous substances			Lower-tier requirements	Upper-tier requirements
<i>1.</i> Ammonium nitrate (note 13)	H P	-	5000	10000
<i>2.</i> Ammonium nitrate (note 14)	H P	-	1250	5000
<i>3.</i> Ammonium nitrate (note 15)	H P	-	350	2500
<i>4.</i> Ammonium nitrate (note 16)	H P	-	10	50
<i>5.</i> Potassium nitrate (note 17)	H P	-	5000	10000
<i>6.</i> Potassium nitrate (note 18)	H P	-	1250	5000
<i>7.</i> Arsenic pentoxide, arsenic (V) acid and/or salts	H E	1303-28-2	1	2
<i>8.</i> Arsenic trioxide, arsenious (III) acid and/or salts	H E	1327-53-3		0,1
<i>9.</i> Bromine	H E	7726-95-6	20	100
<i>10.</i> Chlorine	H E (no P)	7782-50-5	10	25
<i>11.</i> Nickel compounds in inhalable powder form: nickel monoxide, nickel dioxide, nickel sulphide, trinickel disulphide, dinickel trioxide	H Given the explicit focus of the definition on the “inhalable” aspect, it is assumed (only) the “Health hazard” is meant (even if some of the nickel compounds may present other hazard types).	-		1
<i>12.</i> Ethyleneimine	H P E	151-56-4	10	20

13. Fluorine	H P	7782-41-4	10	20
14. Formaldehyde (concentration ≥ 90 %)	H (no E)	50-00-0	5	50
15. Hydrogen	P	1333-74-0	5	50
16. Hydrogen chloride (liquefied gas)	H	7647-01-0	25	250
17. Lead alkyls	H E	-	5	50
18. Liquefied flammable gases, CLP-Category 1 or 2 (including LPG) and natural gas	P	-	50	200
19. Acetylene	P	74-86-2	5	50
20. Ethylene oxide	H P	75-21-8	5	50
21. Propylene oxide	P	75-56-9	5	50
22. Methanol	H P	67-56-1	500	5000

23. 4, 4-Methylenebis (2-chloraniline) and/or salts, in powder form	E	101-14-4		0,01
24. Methylisocyanate	H P	624-83-9		0,15
25. Oxygen	P	7782-44-7	200	2000
26. 2,4 -Toluene diisocyanate 2,6 -Toluene diisocyanate	H	584-84-9 91-08-7	10	100
27. Carbonyl dichloride (phosgene)	H	75-44-5	0,3	0,75
28. Arsine (arsenic trihydride)	H P E	7784-42-1	0,2	1
29. Phosphine (phosphorus trihydride)	H P E	7803-51-2	0,2	1
30. Sulphur dichloride	E	10545-99-0	1	1
31. Sulphur trioxide	-	7446-11-9	15	75
32. Polychlorodibenzofurans and polychlorodibenzodioxins (including TCDD), calculated in TCDD equivalent (note 19)	H The amount needs to be calculated in TCDD-equivalents. This is only possible for the Health aspect. Therefore only Health hazards are considered.	-		0,001
33. The following CARCINOGENS or the mixtures containing the following carcinogens at concentrations above 5% by weight: 4-Aminobiphenyl and/or its salts, Benzotrichloride, Benzidine and/or salts, Bis (chloromethyl) ether, Chloromethyl methyl ether, 1,2-Dibromoethane, Diethyl sulphate, Dimethyl sulphate, Dimethylcarbamoyl chloride, 1,2-Dibromo-3-chloropropane, 1,2-Dimethylhydrazine, Dimethylnitrosamine, Hexamethylphosphoric triamide, Hydrazine, 2- Naphthylamine and/or salts, 4-Nitrodiphenyl, and 1,3 Propanesultone	H Similarly, the carcinogens are considered only for Health hazards, even while some listed carcinogens may also present other hazards.	-	0,5	2
34. Petroleum products <i>and alternative fuels</i> (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams) (d) heavy fuel oil (da) <i>alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)</i>	P E Because of the title "PETROLEUM" and "FUELS", one might assume only flammability, and hence "Physical hazards" are to be considered. However, given the addition (da) and the reference towards "flammability and environmental hazards", both Physical and Environmental summations are required.	-	2500	25000

35. Anhydrous Ammonia	H P E	7664-41-7	50	200
36. Boron trifluoride	H	7637-07-2	5	20
37. Hydrogen sulphide	H P E	7783-06-4	5	20
38. Piperidine	H P	110-889-4	50	200
39. Bis(2-dimethylaminoethyl) (methyl)amin	-	3030-47-5	50	200
40. 3-(2-Ethylhexyloxy)propylamin	-	5397-31-9	50	200
41. Mixtures* of Sodium Hypochlorite classified as Aquatic Acute Category 1 [H400] containing less than 5% active chlorine and not classified under any of the other hazard categories in part 1 of Annex 1. *Provided that the mixture in the absence of Sodium Hypochlorite would not be classified as Aquatic Acute Category 1 [H400].	E Because of the description, and the explicit reference to Aquatic Acute Toxicity, only Environmental hazards are considered		200	500
42. Propylamine (see note 21)	H P	107-10-8	500	2000
43. Tert-butyl acrylate (see note 21)	P E	1663-39-4	200	500
44. 2-Methylbut-3-butenenitrile (see note 21)	P	16529-56-9	500	2000
45. 3,5-Dimethyl-1,3,5,2H-tetrahydrothiadiazine-2-thione (Dazomet) (see note 21)	E	533-74-4	100	200
46. Methyl acrylate (see note 21)	H P	96-33-3	500	2000
47. 3-Methylpyridine (see note 21)	P	108-99-6	500	2000
48. 1-Bromo-3-chloropropane (see note 21)	H P	109-70-6	500	2000