




















# List of symbols, abbreviations, risk and safety phrases

## Symbol, abbreviation/description of hazard

Symbol	Abbreviation	Hazard	Description of hazard
			<b>(Physicochemical)</b>
	E	explosive	Chemicals that explode.
	O	oxidising	Chemicals that react exothermically with other chemicals.
	F+	extremely flammable	Chemicals that have an extremely low flash point and boiling point, and gases that catch fire in contact with air.
	F	highly flammable	Chemicals that may catch fire in contact with air, only need brief contact with an ignition source, have a very low flash point or evolve highly flammable gases in contact with water.
			<b>(Health)</b>
	T+	very toxic	Chemicals that at very low levels cause damage to health.
	T	toxic	Chemicals that at low levels cause damage to health.
	Carc Cat 1	category 1 carcinogens	Chemicals that may cause cancer or increase its incidence.
	Carc Cat 2	category 2 carcinogens	
	Carc Cat 3	category 3 carcinogens	
	Muta Cat 1	category 1 mutagens	Chemicals that induce heritable genetic defects or increase their incidence.
	Muta Cat 2	category 2 mutagens	
	Muta Cat 3	category 3 mutagens	
	Repr Cat 1	category 1 reproductive toxins	Chemicals that produce or increase the incidence of non-heritable effects in progeny and/or an impairment in reproductive functions or capacity.
	Repr Cat 2	category 2 reproductive toxins	
	Repr Cat 3	category 3 reproductive toxins	
	Xn	harmful	Chemicals that may cause damage to health.
	C	corrosive	Chemicals that may destroy living tissue on contact.
	Xi	irritant	Chemicals that may cause inflammation to the skin or other mucous membranes.
			<b>(Environmental)</b>
	N	dangerous for the environment	Chemicals that may present an immediate or delayed danger to one or more components of the environment

## Risk phrases

R1	Explosive when dry
R2	Risk of explosion by shock, friction, fire or other sources of ignition
R3	Extreme risk of explosion by shock, friction, fire or other sources of ignition
R4	Forms very sensitive explosive metallic compounds
R5	Heating may cause an explosion
R6	Explosive with or without contact with air
R7	May cause fire
R8	Contact with combustible material may cause fire
R9	Explosive when mixed with combustible material
R10	Flammable
R11	Highly flammable
R12	Extremely flammable
R14	Reacts violently with water
R14/15	Reacts violently with water, liberating extremely flammable gases
R15	Contact with water liberates extremely flammable gases
R15/29	Contact with water liberates toxic, extremely flammable gases
R16	Explosive when mixed with oxidising substances
R17	Spontaneously flammable in air
R18	In use, may form flammable/explosive vapour-air mixture
R19	May form explosive peroxides
R20	Harmful by inhalation
R20/21	Harmful by inhalation and in contact with skin
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R20/22	Harmful by inhalation and if swallowed
R21	Harmful in contact with skin
R21/22	Harmful in contact with skin and if swallowed
R22	Harmful if swallowed
R23	Toxic by inhalation
R23/24	Toxic by inhalation and in contact with skin
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R23/25	Toxic by inhalation and if swallowed
R24	Toxic in contact with skin
R24/25	Toxic in contact with skin and if swallowed
R25	Toxic if swallowed
R26	Very toxic by inhalation
R26/27	Very toxic by inhalation and in contact with skin
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed
R26/28	Very toxic by inhalation and if swallowed
R27	Very toxic in contact with skin
R27/28	Very toxic in contact with skin and if swallowed
R28	Very toxic if swallowed
R30	Can become highly flammable in use
R31	Contact with acids liberates toxic gas
R32	Contact with acids liberates very toxic gas
R33	Danger of cumulative effects
R34	Causes burns
R35	Causes severe burns
R36	Irritating to eyes
R36/37	Irritating to eyes and respiratory system

R36/37/38 Irritating to eyes, respiratory system and skin

R36/38 Irritating to eyes and skin

R37 Irritating to respiratory system

R37/38 Irritating to respiratory system and skin

R38 Irritating to skin

R39 Danger of very serious irreversible effects

R39/23 Toxic: danger of very serious irreversible effects through inhalation

R39/23/24 Toxic: danger of very serious irreversible effects through inhalation and in contact with skin

R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed

R39/23/25 Toxic: danger of very serious irreversible effects through inhalation and if swallowed

R39/24 Toxic: danger of very serious irreversible effects in contact with skin

R39/24/25 Toxic: danger of very serious irreversible effects in contact with skin and if swallowed

R39/25 Toxic: danger of very serious irreversible effects if swallowed

R39/26 Very Toxic: danger of very serious irreversible effects through inhalation

R39/26/27 Very Toxic: danger of very serious irreversible effects through inhalation and in contact with skin

R39/26/27/28 Very Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed

R39/26/28 Very Toxic: danger of very serious irreversible effects through inhalation and if swallowed

R39/27 Very Toxic: danger of very serious irreversible effects in contact with skin

R39/27/28 Very Toxic: danger of very serious irreversible effects in contact with skin and if swallowed

R39/28 Very Toxic: danger of very serious irreversible effects if swallowed

R40 Limited evidence of a carcinogenic effect

R41 Risk of serious damage to eyes

R42 May cause sensitisation by inhalation

R43 May cause sensitisation by skin contact

R42/43 May cause sensitisation by inhalation and skin contact

R44 Risk of explosion if heated under confinement

R45 May cause cancer

R46 May cause heritable genetic damage

R48 Danger of serious damage to health by prolonged exposure

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation

R48/20/21 Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin

R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed

R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

R48/21 Harmful: danger of serious damage to health by prolonged exposure in contact with skin

R48/21/22 Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed

R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation

R48/23/24 Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin

R48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed

R48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation

and if swallowed

R48/24	Toxic: danger of serious damage to health by prolonged exposure in contact with skin
R48/24/25	Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed
R49	May cause cancer by inhalation
R50	Very toxic to aquatic organisms
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51	Toxic to aquatic organisms
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52	Harmful to aquatic organisms
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R53	May cause long-term adverse effects in the aquatic environment
R54	Toxic to flora
R55	Toxic to fauna
R56	Toxic to soil organisms
R57	Toxic to bees
R58	May cause long-term adverse effects in the environment
R59	Dangerous for the ozone layer
R60	May impair fertility
R61	May cause harm to the unborn child
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
R64	May cause harm to breast-fed babies
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness
R68	Possible risk of irreversible effects
R68/20	Harmful: possible risk of irreversible effects through inhalation
R68/20/21	Harmful: possible risk of irreversible effects through inhalation and in contact with skin
R68/20/21/22	Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed
R68/20/22	Harmful: possible risk of irreversible effects through inhalation and if swallowed
R68/21	Harmful: possible risk of irreversible effects in contact with skin
R68/21/22	Harmful: possible risk of irreversible effects in contact with skin and if swallowed
R68/22	Harmful: possible risk of irreversible effects if swallowed

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# Safety phrases

- S1 Keep locked up
- S(1/2) Keep locked up and out of the reach of children
- S2 Keep out of the reach of children
- S3 Keep in a cool place
- S3/7 Keep container tightly closed in a cool place
- S3/7/9 Keep container tightly closed in a cool, well-ventilated place
- S3/9/14 Keep in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer)
- S3/9/14/49 Keep only in the original container in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer)
- S3/9/49 Keep only in the original container in a cool, well-ventilated place
- S3/14 Keep in a cool place away from ... (incompatible materials to be indicated by the manufacturer)
- S4 Keep away from living quarters
- S5 Keep contents under ... (appropriate liquid to be specified by the manufacturer)
- S6 Keep under ... (inert gas to be specified by the manufacturer)
- S7 Keep container tightly closed
- S7/8 Keep container tightly closed and dry
- S7/9 Keep container tightly closed and in a well-ventilated place
- S7/47 Keep container tightly closed and at temperature not exceeding ... °C (to be specified by the manufacturer)
- S8 Keep container dry
- S9 Keep container in a well-ventilated place
- S12 Do not keep the container sealed
- S13 Keep away from food, drink and animal feedingstuffs
- S14 Keep away from ... (incompatible materials to be indicated by the manufacturer)
- S15 Keep away from heat
- S16 Keep away from sources of ignition - No smoking
- S17 Keep away from combustible material
- S18 Handle and open container with care
- S20 When using do not eat or drink
- S20/21 When using do not eat, drink or smoke
- S21 When using do not smoke
- S22 Do not breathe dust
- S23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer)
- S24 Avoid contact with skin
- S24/25 Avoid contact with skin and eyes
- S25 Avoid contact with eyes
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S27 Take off immediately all contaminated clothing
- S27/28 After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of ... (to be specified by the manufacturer)
- S28 After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer)
- S29 Do not empty into drains
- S29/35 Do not empty into drains; dispose of this material and its container in a safe way
- S29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
- S30 Never add water to this product
- S33 Take precautionary measures against static discharges
- S35 This material and its container must be disposed of in a safe way
- S36 Wear suitable protective clothing
- S36/37 Wear suitable protective clothing and gloves

- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
- S36/39 Wear suitable protective clothing and eye/face protection
- S37 Wear suitable gloves
- S37/39 Wear suitable gloves and eye/face protection
- S38 In case of insufficient ventilation wear suitable respiratory equipment
- S39 Wear eye/face protection
- S40 To clean the floor and all objects contaminated by this material use ... (to be specified by the manufacturer)
- S41 In case of fire and/or explosion do not breathe fumes
- S42 During fumigation/spraying wear suitable respiratory equipment (appropriate wording to be specified by the manufacturer)
- S43 In case of fire use ... (indicate in the space the precise type of fire-fighting equipment. If water increases the risk add - Never use water)
- S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
- S46 If swallowed, seek medical advice immediately and show this container or label
- S47 Keep at temperature not exceeding ... °C (to be specified by the manufacturer)
- S47/49 Keep only in the original container at temperature not exceeding ... °C (to be specified by the manufacturer)
- S48 Keep wet with ... (appropriate material to be specified by the manufacturer)
- S49 Keep only in the original container
- S50 Do not mix with ... (to be specified by the manufacturer)
- S51 Use only in well-ventilated areas
- S52 Not recommended for interior use on large surface areas
- S53 Avoid exposure - obtain special instructions before use
- S56 Dispose of this material and its container at hazardous or special waste collection point
- S57 Use appropriate containment to avoid environmental contamination
- S59 Refer to manufacturer/supplier for information on recovery/recycling
- S60 This material and its container must be disposed of as hazardous waste
- S61 Avoid release to the environment. Refer to special instructions/safety data sheet
- S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label
- S63 In case of accident by inhalation: remove casualty to fresh air and keep at rest
- S64 If swallowed, rinse mouth with water (only if the person is conscious)