

Risk and Safety Phrases

ChromaDex products are assigned risk and safety phrases, which are defined in Annex III of European Union Directive 2001/59/EC. Risk and safety phrases (or statements) are a system of codes and phrases used for hazard labeling of chemicals. These statements describe the nature of special risks and safety of dangerous chemicals. The Risk/Safety statement of a compound consists of a letter (R or S) followed by a combination of numbers. Each letter/number combination corresponds to a phrase. (Missing R or S number combinations indicate phrases that were deleted or replaced.)

Please refer to the material safety data sheet (msds) for more detailed information.

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
R15:	Contact with water liberates 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
R21:	Harmful in contact with skin
R22:	Harmful if swallowed
R23:	Toxic by inhalation
R24:	Toxic in contact with skin
R25:	Toxic if swallowed
R26:	Very toxic by inhalation
R27:	Very toxic in contact with skin
R28:	Very toxic if swallowed
R29:	Contact with water liberates toxic gas.
R30:	Can become highly flammable in use

Risk and Safety Phrases

Risk Phrases	
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
R37:	Irritating to respiratory system
R38:	Irritating to skin
R39:	Danger of very serious irreversible effects
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
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
R49:	May cause cancer by inhalation
R50:	Very toxic to aquatic organisms
R51:	Toxic to aquatic organisms
R52:	Harmful to aquatic organisms
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



Risk and Safety Phrases

Risk Phrases	
R14/15:	Reacts violently with water, liberating extremely flammable gases
R15/29:	Contact with water liberates toxic, extremely flammable gases
R20/21:	Harmful by inhalation and in contact with skin
R20/22:	Harmful by inhalation and if swallowed
R20/21/22:	Harmful by inhalation, in contact with skin and if swallowed
R21/22:	Harmful in contact with skin and if swallowed
R23/24:	Toxic by inhalation and in contact with skin
R23/25:	Toxic by inhalation and if swallowed
R23/24/25:	Toxic by inhalation, in contact with skin and if swallowed
R24/25:	Toxic in contact with skin and if swallowed
R26/27:	Very toxic by inhalation and in contact with skin
R26/28:	Very toxic by inhalation and if swallowed
R26/27/28:	Very toxic by inhalation, in contact with skin and if swallowed
R27/28:	Very toxic in contact with skin and if swallowed
R36/37:	Irritating to eyes and respiratory system
R36/38:	Irritating to eyes and skin
R36/37/38:	Irritating to eyes, respiratory system and skin
R37/38:	Irritating to respiratory system and skin
R39/23:	Toxic: danger of very serious irreversible effects through inhalation
R39/24:	Toxic: danger of very serious irreversible effects in contact with skin
R39/25:	Toxic: danger of very serious irreversible effects if swallowed
R39/23/24:	Toxic: danger of very serious irreversible effects through inhalation and in contact with skin
R39/23/25:	Toxic: danger of very serious irreversible effects through inhalation and if swallowed
R39/24/25:	Toxic: danger of very serious irreversible effects in contact with skin and if swallowed
R39/23/24/25:	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
R39/26:	Very Toxic: danger of very serious irreversible effects through inhalation
R39/27:	Very Toxic: danger of very serious irreversible effects in contact with skin
R39/28:	Very Toxic: danger of very serious irreversible effects if swallowed
R39/26/27:	Very Toxic: danger of very serious irreversible effects through inhalation and in contact with skin
R39/26/28:	Very Toxic: danger of very serious irreversible effects through inhalation and if swallowed
R39/27/28:	Very Toxic: danger of very serious irreversible effects in contact with skin and if swallowed



Risk and Safety Phrases

Risk Phrases	
R39/26/27/28:	Very Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
R42/43:	May cause sensitization by inhalation and skin contact
R48/20:	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R48/21:	Harmful: danger of serious damage to health by prolonged exposure in contact with skin
R48/22:	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R48/20/21:	Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
R48/20/22:	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
R48/21/22:	Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
R48/20/21/22:	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R48/23:	Toxic: danger of serious damage to health by prolonged exposure through inhalation
R48/24:	Toxic: danger of serious damage to health by prolonged exposure in contact with skin
R48/25:	Toxic: danger of serious damage to health by prolonged exposure if swallowed
R48/23/24:	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
R48/23/25:	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
R48/24/25:	Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
R48/23/24/25:	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R68/20:	Harmful: possible risk of irreversible effects through inhalation
R68/21:	Harmful: possible risk of irreversible effects in contact with skin
R68/22:	Harmful: possible risk of irreversible effects if swallowed



Risk and Safety Phrases

Risk Phrases	
R68/20/21:	Harmful: possible risk of irreversible effects through inhalation and in contact with skin
R68/20/22:	Harmful: possible risk of irreversible effects through inhalation and if swallowed
R68/21/22:	Harmful: possible risk of irreversible effects in contact with skin and if swallowed
R68/20/21/22:	Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed

Safety Phrases	
S1:	Keep locked up
S2:	Keep out of the reach of children
S3:	Keep in a cool place
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
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
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
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



Risk and Safety Phrases

Safety Phrases	
S28:	After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer)
S29:	Do not empty into drains
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
S37:	Wear suitable gloves
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)
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



Risk and Safety Phrases

Safety Phrases	
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)
S1/2:	Keep locked up and out of the reach of children
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)
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)
S20/21:	When using do not eat, drink or smoke
S24/25:	Avoid contact with skin and eyes
S27/28:	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of ... (to be specified by the manufacturer)
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
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
S37/39:	Wear suitable gloves and eye/face protection
S47/49:	Keep only in the original container at temperature not exceeding ... °C (to be specified by the manufacturer)

References:

<http://www.wikipedia.org>

http://en.wikipedia.org/wiki/List_of_R-phrases

http://en.wikipedia.org/wiki/List_of_S-phrases