

R- a S- věty v angličtině používané v bezpečnostních listech



Atingo

Single R-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
- R13 (obsolet): Extremely flammable liquid gas*
(This R-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
- R14: Reacts violently with water.
- R15: Contact with water liberates extremely flammable gases.
- R15.1 (Merck) Contact with acid liberates extremely flammable gases.*
- R16: Explosive when mixed with oxidizing 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.
- Riedel-de Haen R23K: Also toxic by inhalation.*
- R24: Toxic in contact with skin.
- Riedel-de Haen R24K: Also toxic in contact with skin.*

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R25: Toxic if swallowed.

Riedel-de Haen R25K: Also toxic if swallowed.

R26: Very toxic by inhalation.

Riedel-de Haen R26K: Also very toxic by inhalation.

R27: Very toxic in contact with skin

Riedel-de Haen R27A: Very toxic in contact with eyes.

Riedel-de Haen R27K: Also very toxic in contact with skin.

Riedel-de Haen R27AK: Also very toxic in contact with eyes.

R28: Very toxic if swallowed.

Riedel-de Haen R28K: Also very toxic if swallowed.

R29: Contact with water liberates toxic gas.

R30: Can become highly flammable in use.

R31: Contact with acids liberates toxic gas.

R31.1 (Merck) Contact with alkalies 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.

Riedel-de Haen R36A: Lacrimating

R37: Irritating to respiratory system.

R38: Irritating to skin.

R39: Danger of very serious irreversible effects.

R40: Possible risk of cancer.

CAUTION: Until 2001 this R-phrase was used for possible mutagenic or teratogenic risks as well. These risks are now labelled with R68!

R41: Risk of serious damage to eyes.

R42: May cause sensitization by inhalation.

R43: May cause sensitization by skin contact.

R44: Risk of explosion if heated under confinement.

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R45:	May cause cancer.
R46:	May cause heritable genetic damage.
R47(<i>obsolete</i>):	<i>May cause deformities.</i> <i>(This R-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)</i>
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 breastfed 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 risks of irreversible effects.

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Combinations of R-Phrases:

- R14/15: Reacts violently with water, liberating extremely flammable gases.
- R15/29: Contact with water liberates toxic, extremely flammable gas.
- R20/21: Harmful by inhalation and in contact with skin.
- R21/22: Harmful in contact with skin and if swallowed.
- 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.
- R24/25: Toxic in contact with skin and if swallowed.
- 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.
- R27/28: Very toxic in contact with skin and if swallowed.
- R26/28: Very toxic by inhalation and if swallowed.
- R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
- R36/37: Irritating to eyes and respiratory system.
- R37/38: Irritating to respiratory system and skin.
- R36/38: Irritating to eyes and skin.
- R36/37/38: Irritating to eyes, 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.

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- 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.
- 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.
- 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.
- 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.

Single S-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).
Merck S5.1: Keep contents under water.
Merck S5.2: Keep contents under petroleum.
Merck S5.3: Keep contents under paraffin oil.
Riedel-de Haen S5A: Keep contents under paraffin oil.
Riedel-de Haen S5B: Keep contents under petroleum.
Riedel-de Haen S5C: Keep contents under protecting liquid.
- S6: Keep contents under ... (appropriate gas to be specified by the manufacturer).
Merck S6.1: Keep contents under nitrogen.
Merck S6.2: Keep contents under argon.
Merck S6.3: Keep contents under carbon dioxide.
Riedel-de Haen S6A: Keep contents under protecting gas.
Riedel-de Haen S6B: Keep contents under nitrogen.
Riedel-de Haen S6C: Keep contents under argon.
- S7: Keep container tightly closed.
- S8: Keep container dry.
- S9: Keep container in a well-ventilated place.
- S10 (obsolete): *Keep content wet.*
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
- S11 (obsolete): *Avoid contact with air.*
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
- 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)
Merck S14.1: Keep away from reducing agents, heavy metal compounds, acids and alkalies.

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Merck S14.2: Keep away from oxidizing and acidic agents and heavy metal compounds.

Merck S14.3: Keep away from iron.

Merck S14.4: Keep away from water and lyes.

Merck S14.5: Keep away from acids.

Merck S14.6: Keep away from lyes.

Merck S14.7: Keep away from metals.

Merck S14.8: Keep away from oxidizing and acidic agents.

Merck S14.9: Keep away from combustible organic compounds.

Merck S14.10: Keep away from acids, reducing agents and combustible materials.

Merck S14.11: Keep away from combustible material.

(This is unnecessary because it equals S17!)

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](#)).

Merck S23.1: Do not breath gas.

Merck S23.2: Do not breath vapour.

Merck S23.3: Do not breath spray.

Merck S23.4: Do not breath fumes.

Merck S23.5: Do not breathe vapor/spray.

Riedel-de Haen S23A: Do not breath gas.

Riedel-de Haen S23B: Do not breath fumes.

Riedel-de Haen S23C: Do not breath spray.

S24: Avoid contact with skin.

S25: Avoid contact with eyes.

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- S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S27: Take off immediately all contaminated clothing.
- S28: After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).
- Merck S28.1:** **After contact with skin, wash immediately with plenty of water.**
- Merck S28.2: *After contact with skin, wash immediately with plenty of water and soap.*
- Merck S28.3: *After contact with skin, wash immediately with plenty of water and soap, if possible also with polyethylene glycol 400.*
- Merck S28.4: *After contact with skin, wash immediately with plenty of polyethylene glycol 300 and ethanol (2:1) and afterwards with plenty of water and soap.*
- Merck S28.5: *After contact with skin, wash immediately with plenty of polyethylene glycol 400.*
- Merck S28.6: *After contact with skin, wash immediately with plenty of polyethylene glycol 400 and afterwards clean with plenty of water.*
- Merck S28.7: *After contact with skin, wash immediately with plenty of water and acidic soap.*
- Riedel-de Haen S28A: *After contact with skin, wash immediately with plenty of a 2% copper(II)-sulfate solution .*
- Riedel-de Haen S28B: *After contact with skin, wash immediately with plenty of polyethylene glycol.*
- Riedel-de Haen S28C: *After contact with skin, wash immediately with plenty of polyethylene glycol / ethanol (1:1).*
- Riedel-de Haen S28D: *After contact with skin, wash immediately with plenty of water and soap.*
- S29: Do not empty into drains.
- S30: Never add water to this product.
- S31 (obsolete): *Keep away from explosive materials.*
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
- S33: Take precautionary measures against static discharges.
- S34 (obsolete): *Avoid strokes and frictions.*
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
- S35: This material and its container must be disposed of in a safe way.
- Merck S35.1: *This material and its container must be disposed of by treating with a 2% sodium hydroxide solution.*
- S36: Wear suitable protective clothing.
- S37: Wear suitable gloves.

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- 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).
- Merck S40.1: To clean the floor and contaminated objects, use water.*
- Riedel-de Haen S40A: To clean the floor and contaminated objects, use iodized active carbon.*
- 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 risk, add - ,Never use water‘)
- Merck S43.1: In case of fire use water.*
- Merck S43.2: In case of fire use water or powder.*
- Merck S43.3: In case of fire use fire powder. Never use water.*
- Merck S43.4: In case of fire use carbon dioxide. Never use water.*
- Merck S43.6: In case of fire use sand. Never use water.*
- Merck S43.7: In case of fire use metal fire powder. Never use water.*
- Merck S43.8: In case of fire use sand, carbon dioxide or fire powder. Never use water.*
- Riedel-de Haen S43A: In case of fire use sand. Never use water.*
- S44 (obsolete): If you feel unwell, seek medical advice immediately. (Show the label where possible.)
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)*
- 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.)
- FU-Safety data base S4730: Keep at temperature not exceeding 30 °C.*
- FU-Safety data base S4740: Keep at temperature not exceeding 40 °C.*
- S48: Keep wet with ... (appropriate material to be specified by the manufacturer)
- Merck S48.1: Keep wet with water.*
- Riedel-de Haen S48A: Keep wet with water.*
- S49: Keep only in the original container

- S50: Do not mix with ... (to be specified by the manufacturer)
- Merck S50.1: *Do not mix with acids.*
- Merck S50.2: *Do not mix with lyes.*
- Merck S50.3: *Do not mix with strong acids or lyes, nonferrous heavy metals and their salts.*
- 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.
- S54 (obsolete): *Before draining of to sewage disposal plant ask for permission of the competent authority.
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)*
- S55 (obsolete): *Before draining of into the sewage system or into waters treat according to state of art.
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)*
- S56: Dispose of this material and its container at hazardous or special waste collection point.
- S57: Use appropriate container to avoid environmental contamination.
- S58 (obsolete): *Dispose as hazardous waste.
(This S-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)*
- 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 sheets.
- 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).

Combinations of S-Phrases:

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 (obsolete):	<i>Keep container tightly closed in a cool, well-ventilated place.</i>
S3/9 (obsolete):	<i>Keep container in a cool, well-ventilated place.</i>
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 a 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.
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 a temperature not exceeding ... °C (to be specified by the manufacturer)