

HAZARD WARNINGS AND SAFETY RECOMMENDATIONS

GHS Pictogram	Description Code	Signal Word	Hazard Statement
	Explosives GHS 01	Danger / Warning	Explosion due to minor impact of fire, heat, agitation, friction ...
	Flame GHS 02	Danger / Warning	Ignition or self-ignition caused by sparks, heat, water contact ...
	Flame over circle GHS 03	Danger / Warning	Fire intensification even in the absence of air Cause of fire in the vicinity
	Gas cylinder GHS 04	Warning	Rupture of the gas bottle Cold injury upon contact
	Corrosion GHS 05	Danger / Warning	Burns with severe tissue damage Destruction of metals
	Skull and crossbones GHS 06	Danger	Life-threatening poisoning even by small amounts and short contact duration
	Exclamation mark GHS 07	Warning	Irritation, health damage, ozone layer depletion
	Health hazard GHS 08	Danger / Warning	Very serious health damage with delayed onset
	Environment GHS 09	Warning	Poisoning of aquatic life Long-term damage to ecosystem

Source : GHS-Memocard "Gefahrstoffe kompakt" | First edition. Dortmund: 2011
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- **The Hazard (H) and Precautionary (P) Statements** are danger and safety phrases for hazardous substances used within the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The GHS is a worldwide standardized system for the classification of chemicals and their labelling on packaging and in safety data sheets. The European Parliament and Council ruled the GHS to be implemented in the EU by 2010 for substances and by 2015 for mixtures. Transitional periods were determined during which it is possible to label according to the earlier directives 67/548/EEC and 1999/45/EC. The GHS's Hazard and Precautionary Statements replace the R and S Phrases previously used in the EU.

- **The R-Phrases and S-Phrases** (risk and safety statements) are codified warnings for characterizing the dangers of hazardous substances (elements, compounds and preparations made from these). Together with the hazard designation and the corresponding hazard symbols for mixtures as part of the hazardous substance labelling required in the EU, they are valid until 2015 plus a 2 year period for stock sales. On the following pages, you will find all Hazard and Precautionary Statements as well as all R-Phrases and S-Phrases.

Notice:

Bernd Kraft® constantly updates its labels to the scientific state-of-the-art and to changes in laws and regulations. Therefore, this product and price list can only reflect the status at the time of going to press. Only the information stated on the label is decisive.

Hazard Statements (H Statements)

The first digit of the three-digit number represents the hazard group:

- 2 Physico-chemical hazards
- 3 Health hazards
- 4 Environmental hazards

2 Physico-chemical hazards

H200	Unstable, explosive
H201	Explosive; mass explosion hazard
H202	Explosive; severe projection hazard
H203	Explosive; fire, blast or projection hazard
H204	Fire or projection hazard
H205	May mass explode in fire
H220	Extremely flammable gas
H221	Flammable gas
H222	Extremely flammable aerosol
H223	Flammable aerosol
H224	Extremely flammable liquid and vapour
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H228	Flammable solid
H229	Pressurized container: may burst if heated
H230	May react explosively even in the absence of air
H231	May react explosively even in the absence of air at elevated pressure and/or temperature
H240	Heating may cause an explosion
H241	Heating may cause a fire or explosion
H242	Heating may cause a fire
H250	Catches fire spontaneously if exposed to air
H251	Self-heating; may catch fire
H252	Self-heating in large quantities; may catch fire
H260	In contact with water releases flammable gases which may ignite spontaneously
H261	In contact with water releases flammable gas
H270	May cause or intensify fire; oxidizer
H271	May cause fire or explosion; strong oxidizer
H272	May intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H281	Contains refrigerated gas; may cause cryogenic burns or injury
H290	May be corrosive to metals

3 Health hazards

H300	Fatal if swallowed
H301	Toxic if swallowed
H302	Harmful if swallowed
H303	May be harmful if swallowed
H304	May be fatal if swallowed and enters airways
H305	May be harmful if swallowed and enters airways
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H313	May be harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H316	Causes mild skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H333	May be harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H341	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H350	May cause cancer. o oral intake d dermal (skin contact) i Inhalation
H351	Suspected of causing cancer
H360	May damage fertility (F) or the unborn child (D) (state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H361	Suspected of damaging fertility (F) or the unborn child (D) (state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H362	May cause harm to breast-fed children
H370	Causes damage to organs
H371	May cause damage to organs
H372	Causes damage to organs (state all organs affected) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H373	May cause damage to organs (state all organs affected) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

4 Environmental hazards

H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long-lasting effects
H411	Toxic to aquatic life with long-lasting effects
H412	Harmful to aquatic life with long-lasting effects
H413	May cause long-lasting harmful effects to aquatic life
H420	Harms public health and the environment by destroying ozone in the upper atmosphere

EU-specific additional hazard phrases**Physical hazards**

EUH001	Explosive when dry
EUH006	Explosive with or without contact with air
EUH014	Reacts violently with water
EUH018	In use may form flammable/explosive vapour-air mixture
EUH019	May form explosive peroxides
EUH044	Risk of explosion if heated under confinement

Health hazards

EUH029	Contact with water liberates toxic gas
EUH031	Contact with acids liberates toxic gas
EUH032	Contact with acids liberates very toxic gas
EUH066	Repeated exposure may cause skin dryness or cracking
EUH070	Toxic by eye contact
EUH071	Corrosive to the respiratory tract

Environmental hazards

EUH059	Hazardous to the ozone layer
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Other EU hazard phrases

EUH201	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.
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EUH202	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
EUH203	Contains chromium(VI). May produce an allergic reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.
EUH205	Contains epoxy constituents. May produce an allergic reaction.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).
EUH207	Warning! Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer. Comply with the safety instructions.
EUH208	Contains ... (name of sensitising substance). May produce an allergic reaction.
EUH209	Can become highly flammable in use OR can become flammable in use
EUH210	Safety data sheet available on request
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Additional labelling phrases according to TRGS 200

A26	For commercial use only
A96	For industrial use only

Precautionary Statements (P Statements)

The first digit of the three-digit number represents the hazard group:

- 1 General statements
- 2 Prevention statements
- 3 Response statements
- 4 Storage statements
- 5 Disposal statements

1 General statements

P101	If medical advice is needed, have product container or label at hand
P102	Keep out of reach of children
P103	Read label before use

Prevention statements

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat/sparks/open flames/hot surfaces - No smoking
P211	Do not spray on an open flame or other ignition source
P220	Keep/Store away from clothing/.../combustible materials (intolerable materials to be specified by the manufacturer/supplier)
P221	Take any precaution to avoid mixing with combustibles
P222	Do not allow contact with air
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire
P230	Keep wetted with... (Suitable material to be specified by manufacturer/supplier, if drying increases the explosion risk and this is not required for manufacturing or operating processes, e.g. nitrocellulose)
P231	Handle under inert gas
P232	Protect from moisture
P233	Keep container tightly closed
P234	Keep only in original container

P235	Keep cool
P240	Ground/bond container and receiving equipment (if electrostatically sensitive material is decanted or if product is volatile and can create a dangerous atmosphere or if electrostatically sensitive material is decanted)
P241	Use explosion-proof electrical/ventilating/lighting equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P244	Keep reduction valves free from grease and oil
P250	Do not subject to grinding/shock/.../friction (... manufacturer/supplier must state which type of mechanical stress must be avoided).
P251	Pressurized container: Do not pierce or burn, even after use
P260	Do not breathe dust/fume/gas/mist/vapours/spray. (Acute toxicity upon inhalation, specific target organ toxicity: manufacturer/supplier must state applicable conditions. Skin corrosion, reproductive toxicity: specify no dust or smoke to be inhaled if inhalable dust or smoke particles can occur)
P261	Avoid breathing dust/fume/gas/mist/vapours/spray (manufacturer/supplier must state applicable conditions.)
P262	Do not get in eyes, on skin, or on clothing
P263	Avoid contact during pregnancy/while breastfeeding
P264	Wash ... thoroughly after handling (manufacturer/supplier must state which body parts are to be washed after use.) 1. Hands 2. Face
P270	Do not eat, drink or smoke when using this product.

- P271 Use only outdoors or in a well-ventilated area
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release into the environment (as far as this is not the intended use.)
 P280 Wear protective gloves/protective clothing/eye protection/face protection
 P281 Use personal protective equipment as required.
 P282 Wear cold insulating gloves/face shield/eye protection
 P283 Wear fire/flame resistant/retardant clothing
 P284 Wear respiratory protection (manufacturer/supplier must state equipment to be used.)
 P285 In case of inadequate ventilation wear respiratory protection (manufacturer/supplier must state equipment to be used.)
 P231 + P232 Handle under inert gas. Protect from moisture.
 P235 + P410 Keep cool. Protect from sunlight.

3 Response statements

- P301 IF SWALLOWED:
 P302 IF ON SKIN:
 P303 IF ON SKIN (or hair):
 P304 IF INHALED:
 P305 IF IN EYES:
 P306 IF ON CLOTHING:
 P307 IF exposed:
 P308 IF exposed or concerned:
 P309 IF exposed or if you feel unwell:
 P310 Immediately call a POISON CENTER or doctor/physician.
 P311 Call a POISON CENTER or doctor/physician.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P313 Get medical advice/attention.
 P314 Get medical advice/attention if you feel unwell.
 P315 Get immediate medical advice/attention.
 P320 Specific treatment is urgent (see ... on this label). (Additional first aid instructions to be stated if immediate administration of an antidote is required).
 P321 Specific treatment (see ... on this label).
 P322 Specific measures (see ... on this label). (Additional first aid instructions to be stated.)
 P330 Rinse mouth.
 P331 Do NOT induce vomiting.
 P332 If skin irritation occurs:
 P334 Immerse in cool water/wrap in wet bandages.
 P335 Brush off loose particles from skin.
 P336 Thaw frosted parts with lukewarm water. Do no rub affected area.
 P337 If eye irritation persists:
 P338 Remove contact lenses, if present and easy to do. Continue rinsing.
 P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P341 If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable.
 P342 If experiencing respiratory symptoms:
 P350 Gently wash with plenty of soap and water.
 P351 Rinse cautiously with water for several minutes.
 P352 Wash with plenty of soap and water.
 P353 Rinse skin with water/shower.
 P360 Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
 P361 Remove/Take off immediately all contaminated clothing.
 P362 Take off contaminated clothing and wash before reuse.
 P363 Wash contaminated clothing before reuse.
 P364 And wash it before reuse.
 P370 In case of fire:
 P371 In case of major fire and large quantities:
 P372 Explosion risk in case of fire
 P373 DO NOT fight fire when fire reaches explosives
 P374 Fight fire with normal precautions from a reasonable distance
 P375 Fight fire remotely due to the risk of explosion
 P376 Stop leak if safe to do so
 P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely
 P378 Use ... for extinction (manufacturer/supplier to state appropriate medium if water increases danger)
 P380 Evacuate area
 P381 Eliminate all ignition sources if safe to do so
 P390 Absorb spillage to prevent material damage
 P391 Collect spillage
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P301+ P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P302 + P334 Immerse in cool water/wrap in wet bandages
 P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P303 + P361+ P353 F ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin.
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351+ P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P306 + P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention
 P309 + P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician
 P335 + P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
 P337 + P313 If eye irritation persists: Get medical advice/ attention
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 P361 + P364 Take off immediately all contaminated clothing and wash it before reuse
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P370 + P376 In case of fire: Stop leak if safe to do so
 P370 + P378 In case of fire: Use ... for extinction (manufacturer/ supplier to state appropriate medium if water increases danger). 1. Sand
 P370 + P380 In case of fire: Evacuate area
 P370 + P380 + P375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
 P371 + P380 + P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

4 Storage statements

- P401 Store ... (... to be stated according to the local/ regional/ national/international regulations.)
 P402 Store in a dry place
 P403 Store in a well-ventilated place
 P404 Store in a closed container
 P405 Store locked up
 P406 Store in corrosive resistant container with a resistant inner liner
 P407 Maintain air gap between stacks/pallets
 P410 Protect from sunlight
 P411 Store at temperatures not exceeding ... °C/...°F (temperature to be stated by manufacturer/supplier.)

P412	Do not expose to temperatures exceeding 50°C/122°F.	P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P413	Store bulk masses greater than ... kg/... lbs at temperatures not exceeding ... °C/...°F (amount and temperature to be stated by manufacturer/supplier).	P411 + P235	Store at temperatures not exceeding ... °C/...°F. Keep cool.
P420	Store away from other materials		
P422	Store contents under ... (appropriate liquid or inert gas to be stated by manufacturer/supplier.)		
P402 + P404	Store in a dry place. Store in a closed container.		
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.		
P403 + P235	Store in a well-ventilated place. Keep cool.		
P410 + P403	Protect from sunlight. Store in a well-ventilated place.		

5 Disposal statements

P501	Dispose of contents/container to ... (... to be stated according to the local/ regional/national/international regulations.)
P502	Refer to manufacturer or supplier for information on recovery or recycling.

Safety Recommendations (S-Phrases)

S-Phrases Safety Recommendations

S 1	Keep locked up	S 28	After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer)
S 2	Keep out of the reach of children	S 28.a	Water
S 3	Keep in a cool place	S 28.b	Water and soap
S 4	Keep away from living quarters	S 28.c	Water and soap ideally with polyethylene glycol
S 5	Keep contents under ... (appropriate liquid to be specified by the manufacturer)	S 28.d	Polyethylene glycol 300 and ethanol (2: 1), then plenty of water and soap
S 5.a	Keep under water	S 28.e	Polyethylene glycol 400
S 5.b	Keep under petroleum	S 28.f	Polyethylene glycol 400, then cleanse with plenty of water
S 6	Keep under... (inert gas to be specified by the manufacturer):	S 28.g	Plenty of water and acidic soap
S 6.a	Keep under nitrogen	S 29	Do not empty into drains
S 6.b	Keep under argon	S 30	Never add water to this product
S 7	Keep container tightly closed	S 33	Take precautionary measures against static discharges
S 8	Keep container dry	S 35	This material and its container must be disposed of in a safe way
S 9	Keep container in a well-ventilated place	S 36	Wear suitable protective clothing
S 12	Do not keep the container sealed	S 37	Wear suitable gloves
S 13	Keep away from food, drink and animal foodstuffs	S 38	In case of insufficient ventilation wear suitable respiratory equipment
S 14	Keep away from ... (incompatible materials to be indicated by the manufacturer):	S 39	Wear eye/face protection
S 14.a	Keep away from reducing agents, heavy metal compounds, acids and alkalis	S 40	To clean the floor and all objects contaminated by this material use ... (to be specified by the manufacturer; plenty of water)
S 14.b	Keep away from oxidizing and acidic substances as well as heavy metal compounds	S 41	In case of fire and/or explosion do not breathe fumes
S 14.c	Keep away from iron	S 42	During fumigation/spraying wear suitable respiratory equipment (appropriate wording to be specified by the manufacturer)
S 14.d	Keep away from water and bases	S 43	In case of fire use ... (indicate the precise type of fire-fighting equipment. If water increases the risk, add "Never use water")
S 14.e	Keep away from acids	S 43.a	Water
S 14.f	Keep away from bases	S 43.b	Water or powder fire extinguisher
S 14.g	Keep away from metals	S 43.c	Powder fire extinguisher, no water
S 14.h	Keep away from oxidizing and acidic substances	S 43.d	Carbon dioxide, no water
S 14.i	Keep away from combustible organic substances	S 43.e	Halons, no water
S 14.j	Keep away from acids, reducing agents and combustible materials	S 43.f	Sand, no water
S 14.k	Keep away from combustible substances	S 43.g	Metal fire powder, no water
S 15	Keep away from heat	S 43.h	Carbon dioxide and powder fire extinguisher, no water
S 16	Keep away from sources of ignition - No smoking	S 45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
S 17	Keep away from combustible material	S 46	If swallowed, seek medical advice immediately and show this container or label
S 18	Handle and open container with care	S 47	Keep at temperature not exceeding ... °C; (to be specified by the manufacturer)
S 20	When using do not eat or drink	S 48	Keep wet with ...; appropriate material to be specified by the manufacturer: water
S 21	When using do not smoke	S 49	Keep only in the original container
S 22	Do not breathe dust	S 50	Do not mix with ... (to be specified by the manufacturer):
S 23	Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer):	S 50.a	Acids
S 23.a	Do not breathe gas	S 50.b	Bases
S 23.b	Do not breathe vapour		
S 23.c	Do not breathe aerosol		
S 23.d	Do not breathe smoke		
S 23.e	Do not breathe vapour/aerosol		
S 24	Avoid contact with skin		
S 25	Avoid contact with eyes		
S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice		
S 27	Take off immediately all contaminated clothing		

S 50.c	Strong acids, strong bases, non-ferrous metals and their salts	S 60	This material and its container must be disposed of as hazardous waste
S 51	Use only in well-ventilated areas	S 61	Avoid release to the environment. Refer to special instructions/safety data sheet
S 52	Not recommended for interior use on large surface areas	S 62	If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label where possible
S 53	Avoid exposure - obtain special instructions before use	S 63	In case of accident by inhalation: remove casualty to fresh air and keep at rest
S 56	Dispose of this material and its container at hazardous or special waste collection point	S 64	If swallowed, rinse mouth with water (only if the person is conscious)
S 57	Use appropriate containment to avoid environmental contamination		
S 59	Refer to manufacturer/supplier for information on recovery/recycling		

Combinations of S-Phrases

S-Phrases Safety Recommendations

S1/2	Keep locked up and out of the reach of children	S 20/21	When using do not eat, drink or smoke
S 3/7	Keep container tightly closed in a cool place	S 24/25	Avoid contact with skin and eyes
S 3/9/14	Keep in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer):	S 27/28	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of ... (to be specified by the manufacturer)
S 3/9/14.a	Keep in a cool, well-ventilated place away from reducing agents, heavy metal compounds, acids and alkalis	S 29/35	Do not empty into drains; dispose of this material and its container in a safe way
S 3/9/14/49	Keep only in the original container in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer)	S 29/56	Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
S 3/9/49	Keep only in the original container in a cool, well-ventilated place	S 36/37	Wear suitable protective clothing and gloves when working
S 3/14	Keep in a cool place away from ... (incompatible materials to be indicated by the manufacturer)	S 36/37/39	Wear suitable protective clothing, gloves and eye/face protection when working
S 7/8	Keep container tightly closed and dry	S 36/39	Wear suitable protective clothing and eye/face protection when working
S 7/9	Keep container tightly closed and in a well-ventilated place	S 37/39	Wear suitable gloves and eye/face protection when working
S 7/47	Keep container tightly closed and at temperature not exceeding ... °C (to be specified by the manufacturer)	S 47/49	Keep only in the original container at temperature not exceeding ... °C (to be specified by the manufacturer)