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# Safety data sheet



BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)
Date / Revised: 10.07.2024 Version: 8.2
Product: **929-63 2,5L Hardener VOC normal G2**
(ID no. 50412070/SDS_GEN_00/EN)
Date of print 11.07.2024

## 1. Identification

### Product identifier

## 929-63 2,5L Hardener VOC normal G2

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: hardener

### Details of the supplier of the safety data sheet

Company:
BASF Coatings GmbH
Postfach 6123
48136 Muenster
Deutschland

Telephone: +49/2501/143688
E-mail address: product-safety-coatings@basf.com

### Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 4 (Inhalation - vapour)
Skin Sens. 1
STOT SE 3 (irritating to respiratory system)
Flam. Liq. 3

For the classifications not written out in full in this section the full text can be found in section 16.

## Label elements

Globally Harmonized System, UN (GHS)

Pictogram:

Signal Word:
Warning

Hazard Statement:

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H317 | May cause an allergic skin reaction. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |

Precautionary Statements (Prevention):

| | |
|---|---|
| P280 | Wear protective gloves, protective clothing and eye protection or face protection. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P242 | Use non-sparking tools. |
| P241 | Use explosion-proof electrical, ventilating and lighting equipment. |
| P243 | Take action to prevent static discharges. |
| P233 | Keep container tightly closed. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P240 | Ground and bond container and receiving equipment. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

Precautionary Statements (Response):

| | |
|---|---|
| P312 | Call a POISON CENTER or physician if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P370 + P378 | In case of fire: Use water spray for extinction. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P333 + P313 | If skin irritation or rash occurs: Get medical attention. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |

Precautionary Statements (Storage):

| | |
|---|---|
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |

Precautionary Statements (Disposal):

| | |
|---|---|
| P501 | Dispose of contents and container to hazardous or special waste collection point. |

### Other hazards

According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

## 3. Composition/Information on Ingredients

### Substances

Not applicable

### Mixtures

Chemical nature

polyisocyanate, organic solvent

Hazardous ingredients (GHS)
According to UN GHS criteria

HDI-Oligomer(Trimer)

| | |
|---|---|
| Content (W/W): >= 75 % - <= 100 % | Acute Tox. 4 (Inhalation - dust)<br>Acute Tox. 4 (Inhalation - vapour) |
| CAS Number: 28182-81-2 | Skin Sens. 1 |
| REACH registration number: 01-2119485796-17 | STOT SE 3 (irr. to respiratory syst.)<br>H332, H317, H335<br>EUH204 |

2-Butoxyethyl acetate

| | |
|---|---|
| Content (W/W): >= 5 % - < 7 % | Flam. Liq. 4 |
| CAS Number: 112-07-2 | Acute Tox. 4 (oral) |
| EC-Number: 203-933-3 | Acute Tox. 4 (dermal) |
| INDEX-Number: 607-038-00-2 | Aquatic Acute 3<br>H227, H302 + H312, H402 |

Naphtha (petroleum),hydrotreated light, Kp > 140oC

| | |
|---|---|
| Content (W/W): >= 3 % - < 5 % | Asp. Tox. 1 |
| CAS Number: 64742-49-0 | Flam. Liq. 3 |
| EC-Number: 265-151-9 | STOT SE 3 (drowsiness and dizziness) |
| REACH registration number: 01-2119471843-32 | Aquatic Chronic 3 |
| | H412, H226, H304, H336 |
| | EUH066 |

Heptan-2-one

| | |
|---|---|
| Content (W/W): >= 2,5 % - < 3 % | Flam. Liq. 3 |
| CAS Number: 110-43-0 | Acute Tox. 4 (Inhalation - vapour) |
| EC-Number: 203-767-1 | Acute Tox. 4 (oral) |
| INDEX-Number: 606-024-00-3 | Skin Irrit. 3 |
| | STOT SE 3 (drowsiness and dizziness) |
| | Aquatic Acute 3 |
| | H226, H316, H336, H302 + H332, H402 |

isophorone diisocyanate (IPDI) polymer

| | |
|---|---|
| Content (W/W): >= 2,5 % - < 3 % | Skin Sens. 1 |
| CAS Number: 53880-05-0 | STOT SE 3 (irr. to respiratory syst.) |
| REACH registration number: 01-2119488734-24 | H317, H335 |
| | EUH204 |

For the classifications not written out in full in this section the full text can be found in section 16.

## 4. First-Aid Measures

### Description of first aid measures

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Remove affected person from danger area. Immediately remove contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. If symptoms persist, seek medical advice. If breathing is irregular or stopped, administer artificial respiration.

On skin contact:
Flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary. Immediate medical attention required.

On contact with eyes:
Remove contact lenses, if present. Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Immediate medical attention required.

On ingestion:
Summon medical aid without delay. Do not induce vomiting due to aspiration hazard. Rinse mouth immediately with water. Keep at rest.

### Most important symptoms and effects, both acute and delayed

Symptoms: allergic symptoms, irritation of respiratory tract, Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Antidote: No known specific antidote.

## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:
carbon dioxide, alcohol-resistant foam, dry powder, water spray

Unsuitable extinguishing media for safety reasons:
water jet

### Special hazards arising from the substance or mixture

nitrogen oxides
Fire will produce dense black smoke. Inhalation of dangerous decomposition products may cause serious damage to health.

### Advice for fire-fighters

Special protective equipment:
Appropriate breathing apparatus may be required.

Further information:
Cool closed containers in the vicinity of the source of fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

## 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours. For non-emergency personnel: Use personal protective clothing. Ensure adequate ventilation. Keep away from sources of ignition. For emergency responders: Advice on product handling can be found in sections 7 and 8 of this safety data sheet. Information regarding personal protective measures, see section 8.

### Environmental precautions

Do not allow to enter drains or waterways. If the product enters drains or sewers, the local water company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the Environment Agency. Do not discharge into the subsoil/soil.

### Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth. Place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): ethanol or isopropyl alcohol (50 parts); water (45 parts); concentrated ammonia solution (5

parts). A non-flammable alternative is: sodium carbonate (5 parts); water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to the waste regulations (see section 13). Ensure adequate ventilation.

## 7. Handling and Storage

### Precautions for safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Do not return residues to the storage containers. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits. Care should be taken when reopening partly used containers (pressurization!). Avoid inhalation of vapour and spray mist. The workplace should be equipped with an emergency shower and eye-rinsing facility. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
Avoid all sources of ignition: heat, sparks, open flame. Product may charge electrostatically: always use earthing leads when transferring from one container to another and earth containers. It is recommended that operators should wear antistatic clothing and footwear. Solvent vapours are heavier than air and spread along floors. Vapour forms explosive mixtures with air. The relevant fire protection measures should be noted. Use explosion-proof equipment.

### Conditions for safe storage, including any incompatibilities

Keep away from strongly acid and stongly alkaline materials, from oxidizing agents, amines, alcohols and water.

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Polyethylenetherephtalate (PET), Polypropylene (PP), Stainless steel 1.4301 (V2), Carbon steel (Iron), tinned carbon steel (Tinplate)
Further information on storage conditions: Keep away from heat. Keep in a cool, well-ventilated place. Avoid direct sunlight. Close containers carefully once opened and store them upright in order to prevent any leakage. No smoking. No admission for unauthorised personnel. Precautions should be taken to minimise exposure to atmospheric humidity or water: carbon dioxide will be formed which in closed containers can result pressurisation. Always keep in containers of same material as the original one. Observe label precautions. Store protected against freezing.

Storage stability:
Storage temperature: 5 - 35 °C

### Specific end use(s)

Please refer to the technical leaflet for further information.

## 8. Exposure Controls/Personal Protection

### Control parameters

Components with occupational exposure limits

110-43-0: Heptan-2-one
112-07-2: 2-Butoxyethyl acetate

### Exposure controls

Personal protective equipment

Respiratory protection:
Suitable respiratory protection: e.g. full face mask with AB2P3 class combination filter

Hand protection:
Further information on penetration time is available from the manufacturer of the glove.
Data are based on information from the glove manufacturer, the raw material manufacturer or according to specifics of the product components.
The protection glove should be tested for its specific suitability (e.g. mechanical strength, product compatibility, anti-static properties).
Follow manufacturer's advice on use, storage, maintenance and replacement of gloves.
The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).
Wear protective gloves. Any chemical protection glove certified according to EN ISO 374-1 is suitable: e.g.
butyl rubber gloves - material thickness: 0.5 mm

Eye protection:
Eye protection not required.

Body protection:
chemical-resistant disposable coveralls, Personnel should wear antistatic, flame-retardant clothing made of natural fibres and/or heat-resistant synthetic fibres.

General safety and hygiene measures
Do not breathe vapour/spray. Eye wash fountains and safety showers must be easily accessible. Under cool dry conditions, it is possible for the isocyanate to remain unreacted in the paint film for up to 30 hours after application. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. This can be achieved by the use of local exhaust ventilation and good general extraction. Respiratory protective equipment should be worn by spray booth operatives. Ensure adequate ventilation. Remove contaminated clothing immediately and dispose of safely. Hands and/or face should be washed before breaks and at the end of the shift. Keep separated from food stuffs and feed stocks.

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| State of matter: | liquid |
| Form: | liquid |
| Colour: | colourless |

| | | |
|---|---|---|
| Odour: | ester-like | |
| Melting point: | | |
| | not determined | |
| onset of boiling: | 116 °C | (calculated) |
| Flammability: | Flammable liquid and vapour. | |
| Lower explosion limit: | 36 g/m3 | |
| Flash point: | 57 °C | (ISO 3679) |
| Auto-ignition temperature: | > 200 °C | |
| Thermal decomposition: | No decomposition if stored and handled as prescribed/indicated. | |
| pH value: | | |
| | substance/mixture reacts violently with water | |
| Viscosity, kinematic: | | |
| | (40 °C) | |
| | No data available. | |
| | 195,5 mm2/s | |
| | (23 °C) | |
| Solubility in water: | Reacts with water. | |
| Partitioning coefficient n-octanol/water (log Kow): | | |
| | not applicable for mixtures | |
| Vapour pressure: | 20,00 hPa | (calculated) |
| | (20 °C) | |
| | | |
| | (50 °C) | |
| | not determined | |
| Density: | 1,090 g/cm3 | |
| | (20 °C) | |
| Relative vapour density (air): | | |
| | Heavier than air. | |

### 9.2. Other information

**Information with regard to physical hazard classes**

| | | |
|---|---|---|
| Explosives | | |
| Explosion hazard: | not explosive | |
| Oxidizing properties | | |
| Fire promoting properties: | not fire-propagating | |
| Flammable solids | | |
| Burning rate: | The material doesn't meet the criteria specified in paragraph 33.2.4.4 of UN manual of tests and criteria. | (UN Test N.1 (ready combustible solids)) |
| Self-heating substances and mixtures | | |
| Self heating ability: | It is not a material capable of spontaneous heating | |

**Other safety characteristics**

| | | |
|---|---|---|
| Miscibility with water: | | |
| | immiscible | |
| Flow time: | > 30 s | (DIN EN ISO 2431; 6 mm) |
| | (23 °C) | |

## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

Vapours may form ignitable mixture with air.

### Conditions to avoid

Avoid direct contact with water. Avoid heat. Avoid direct sunlight. Avoid all sources of ignition: heat, sparks, open flame. Avoid freezing.

### Incompatible materials

Substances to avoid:
Keep away from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.

### Hazardous decomposition products

:
When exposed to high temperatures hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates may be produced., No hazardous decomposition products if stored and handled as prescribed/indicated.

## 11. Toxicological Information

### Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Repeated and prolonged exposure to solvents at levels significantly above OELs may lead to the development of long-lasting central nervous system disorders such as chronic toxic encephalopathy, signs of toxicity include changes in behaviour and memory. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

Of moderate toxicity after short-term inhalation.

*Information on: Heptan-2-one*

*Experimental/calculated data:*
*LC50 rat (by inhalation): > 16,7 mg/l 4 h (OECD Guideline 403)*
*Mortality was observed. The vapour was tested.*

*Information on: 2-Butoxyethyl acetate*
*Experimental/calculated data:*
*LC50 rat (by inhalation): > 400 ppm 4 h (OECD Guideline 403)*
*No mortality was observed. Highest concentration technically achievable. The vapour was tested.*
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Irritation

Assessment of irritating effects:
The liquid splashed in the eyes may cause irritation and reversible damage. Based on available data, the classification criteria are not met.

Respiratory/Skin sensitization

Assessment of sensitization:
Sensitization after skin contact possible.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on available data, the classification criteria are not met.

Carcinogenicity

Assessment of carcinogenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity

Assessment of reproduction toxicity:
Based on available data, the classification criteria are not met.

Developmental toxicity

Assessment of teratogenicity:
Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on available data, the classification criteria are not met.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

Based on the properties of the isocyanate components and considering toxicological data on similar product, this product may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the occupational exposure limit. Repeated inhalation may lead to a permanent respiratory disability.

## 12. Ecological Information

### Toxicity

Assessment of aquatic toxicity:
There are no test results available for this product. Do not allow to enter drains or waterways. Based on available data, the classification criteria are not met.

### Persistence and degradability

Assessment biodegradation and elimination (H2O):
Biological degradability of hazardous substances mentioned in section 3:

*Information on: Heptan-2-one*
*Elimination information:*
*69 % DOC reduction (28 d) (OECD Guideline 310) (aerobic, activated sludge, domestic, non-adapted)*

*Information on: 2-Butoxyethyl acetate*
*Elimination information:*
*88 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EWG, C.4-D) (aerobic, activated sludge, domestic)*

*Information on: Naphtha (petroleum),hydrotreated light, Kp > 140oC*
*Elimination information:*
*77,05 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EWG, C.4-D) (aerobic, activated sludge, domestic, non-adapted)*
*The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*
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### Bioaccumulative potential

Bioaccumulation potential:
No data available.

### Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: No data available.

## 13. Disposal Considerations

### Waste treatment methods

Do not discharge into drains/surface waters/groundwater.
Observe national and local legal requirements.
Dispose of isocyanate waste in dry containers and never mix together with other wastes (reaction, dangerous pressure build up).

Contaminated packaging:
Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.
Residues in empty containers should be neutralised with decontaminant (see section 6).

## 14. Transport Information

**Land transport**

ADR

| | |
|---|---|
| UN number or ID number: | UN1263 |
| UN proper shipping name: | PAINT |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Environmental hazards: | no |
| Special precautions for user: | Tunnel code: D/E |

RID

| | |
|---|---|
| UN number or ID number: | UN1263 |
| UN proper shipping name: | PAINT |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Environmental hazards: | no |
| Special precautions for user: | None known |

**Inland waterway transport**

ADN

| | |
|---|---|
| UN number or ID number: | UN1263 |
| UN proper shipping name: | PAINT |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Environmental hazards: | no |

| | |
|---|---|
| Special precautions for user: | None known |

Transport in inland waterway vessel
Not evaluated

**Sea transport**

IMDG

| | |
|---|---|
| UN number or ID number: | UN 1263 |
| UN proper shipping name: | PAINT |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Environmental hazards: | no<br>Marine pollutant: NO |
| Special precautions for user: | EmS: F-E; S-E |

**Air transport**

IATA/ICAO

| | |
|---|---|
| UN number or ID number: | UN 1263 |
| UN proper shipping name: | PAINT |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Environmental hazards: | No Mark as dangerous for the environment is needed |
| Special precautions for user: | None known |

### Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

## 15. Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Not applicable

## 16. Other Information

For multi-pack systems observe material safety data sheets of all components. Restricted to professional users.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

| | |
|---|---|
| Acute Tox. | Acute toxicity |
| Skin Sens. | Skin sensitization |
| STOT SE | Specific target organ toxicity — single exposure |
| Flam. Liq. | Flammable liquids |
| Aquatic Acute | Hazardous to the aquatic environment - acute |
| Asp. Tox. | Aspiration hazard |
| Aquatic Chronic | Hazardous to the aquatic environment - chronic |
| Skin Irrit. | Skin irritation |
| H332 | Harmful if inhaled. |
| H317 | May cause an allergic skin reaction. |
| H335 | May cause respiratory irritation. |
| H227 | Combustible liquid. |
| H302 + H312 | Harmful if swallowed or in contact with skin. |
| H402 | Harmful to aquatic life. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H226 | Flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H336 | May cause drowsiness or dizziness. |
| H316 | Causes mild skin irritation. |
| H302 + H332 | Harmful if swallowed or if inhaled. |
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.