

## Safety data sheet

### according to Regulation (EC) No 1907/2006, Article 31

Printing date 28.11.2024

V 2 (replaces version 1)

Revision: 28.11.2024

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name: **Novalin-D**

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

#### 1.2.1 Relevant identified uses

Application of the substance / the mixture Acidous cleaning- and pickling agent.

1.2.2 Uses advised against Applications not listed above are not recommended as they are considered unidentified.

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

#### Manufacturer:

RUDOLF FLUME Technik GmbH

Hachestraße 66

D-45127 Essen

E-Mail: info@flume.de

www.flume.de

Informing department: Product Safety Department

1.4 Emergency telephone number: Mo. - Fr. 8:00 Uhr - 16:00 Uhr: +49 (0) 531/21031-19

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Carc. 2	H351	Suspected of causing cancer.
Repr. 2	H361d	Suspected of damaging the unborn child.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

#### Hazard pictograms



GHS05

GHS08

Signal word Danger

#### Hazard-determining components of labelling:

sulphuric acid

thiourea

Isotridecanol, ethoxylated

#### Hazard statements

H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.  
 H351 Suspected of causing cancer.  
 H361d Suspected of damaging the unborn child.  
 H412 Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P234 Keep only in original packaging.  
 P260 Do not breathe dusts or mists.  
 P264 Wash thoroughly after handling.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 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.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P363 Wash contaminated clothing before reuse.  
 P405 Store locked up.  
 P406 Store in a corrosion resistant container / container with a resistant inner liner.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Additional information:

Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.

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**2.3 Other hazards****Results of PBT and vPvB assessment****PBT:**

The product does not contain any substance at 0.1% or more by weight that is considered persistent, bioaccumulative and toxic.

**vPvB:**

The product does not contain any substance at 0.1% or more by weight that is considered very persistent and very bioaccumulative.

## 3 Composition/information on ingredients

**3.2 Mixtures****Description:** Mixture of the substances listed below with harmless additions.

<b>Dangerous components:</b>		
CAS: 62-56-6 EINECS: 200-543-5 Reg.nr.: 01-2119977062-37	thiourea Carc. 2, H351; Repr. 2, H361d; Aquatic Chronic 2, H411; Acute Tox. 4, H302	2.5-10%
CAS: 7664-93-9 EINECS: 231-639-5 Reg.nr.: 01-2119458838-20	sulphuric acid Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	2.5-10%
CAS: 9043-30-5 NLP: 500-027-2 Reg.nr.: Polymer	Isotridecanol, ethoxylated Eye Dam. 1, H318; Acute Tox. 4, H302	0.3-2.5%
<b>Ingredients due to Detergents Regulation 648/2044 EC:</b>		
NON-IONIC SURFACTANTS		<5%

**SVHC**

The product does not contain substances of very high concern (REACH Regulation (EC) No 1907/2006, Article 57) in concentrations of 0.1% or more.

**Additional information**

Products with EC-Limit-Values are named under section 8.

For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

**4.1 Description of first aid measures****General information** Instantly remove any clothing soiled by the product.**After inhalation**

After concentrated exposure to dizziness or unconsciousness, immediately add fresh air and, if necessary, seek medical advice.

**After skin contact** Instantly rinse with water.**After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.**After swallowing** Drink copious amounts of water and provide fresh air. Instantly call for doctor.**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

## 5 Firefighting measures

**5.1 Extinguishing media****Suitable extinguishing agents** CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet.**5.2 Special hazards arising from the substance or mixture**

Formation of poisonous gases during heating or in fires.

Sulphur dioxide (SO<sub>2</sub>)

Carbon monoxide (CO)

Nitrogen oxides (NO<sub>x</sub>)**5.3 Advice for firefighters****Protective equipment:** In case of fire harmful vapors may be produced. - Wear respiratory protective device.

## 6 Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**6.2 Environmental precautions:**

Inform respective authorities in case product reaches water or sewage system.

Do not allow to enter the ground/soil.

Do not allow product to reach sewage system or water bodies.

**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

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See Section 13 for information on disposal.

## 7 Handling and storage

### 7.1 Precautions for safe handling

Store in cool, dry place in tightly closed containers.

Open and handle container with care.

**Information about protection against explosions and fires:** Keep breathing equipment ready.

### 7.2 Conditions for safe storage, including any incompatibilities

**Requirements to be met by storerooms and containers:** Provide acid-resistant floor.**Information about storage in one common storage facility:** Do not store together with alkalis (caustic solutions).

#### Further information about storage conditions:

Protect from frost.

Protect from heat and direct sunlight.

**Storage class** 8 B**7.3 Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

### 8.1 Control parameters

#### Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### DNELs

##### 7664-93-9 sulphuric acid

Inhalative	short-term exposure - systemic and local effects	0.1 mg/m <sup>3</sup> (worker)
	long-term exposure - systemic effects	0.05 mg/m <sup>3</sup> (worker)

#### PNECs

##### 7664-93-9 sulphuric acid

freshwater	0.0025 mg/l
marine water	0.25 mg/l
sediment (freshwater)	0.002 mg/kg
sediment (marine water)	0.002 mg/kg

**Additional information:** The lists that were valid during the compilation were used as basis.

### 8.2 Exposure controls

**Appropriate engineering controls** No further data; see section 7.

#### Individual protection measures, such as personal protective equipment

##### General protective and hygienic measures

Keep away from foodstuffs, beverages and food.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

##### Breathing equipment:

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Only during spraying without adequate removal by suction.

##### Hand protection

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves** Safety Gloves of Nitril (EN 374)

##### Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Not suitable are gloves made of the following materials:** Leather gloves**Eye/face protection** Tightly sealed safety glasses.**Body protection:** Protective work clothing.

## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Physical state

Fluid

**Colour:**

Clear

**Odour:**

Sulphurous

**Odour threshold:**

Not determined.

**Melting point/freezing point:**

Not determined

**Boiling point or initial boiling point and boiling range**

100 °C (7732-18-5 water)

**Flammability**

Not applicable.

**Lower and upper explosion limit****Lower:**

Not determined.

**Upper:**

Not determined.

**Flash point:**

Not applicable

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Decomposition temperature:	Not determined.
pH at 20 °C	2
Viscosity:	
Kinematic viscosity	Not determined.
dynamic at 20 °C:	<10 mPas
Solubility	
Water:	Fully miscible
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure at 20 °C:	23 hPa (7732-18-5 water)
Density and/or relative density	
Density at 20 °C	1.04 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.

**9.2 Other information**

Appearance:	
Form:	Fluid
Self-flammability:	Product is not selfigniting.
Explosive properties:	Product is not explosive.
Solvent content:	
Water:	87.5 %
Change in condition	
Evaporation rate	Not determined.

**Information with regard to physical hazard classes**

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	May be corrosive to metals.
Desensitised explosives	Void

## 10 Stability and reactivity

**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:** No decomposition if stored, handled and used as directed.**10.3 Possibility of hazardous reactions**

Cleaning tarnished silver produces hydrogen sulphide. This is toxic, but is perceived as an odor of rotten eggs even at the smallest quantities, far below the occupational exposure limits. At concentrations of > 200 ppm, however, the threshold value for numbing the odor receptors is reached and perception fails. Tarnished silver should therefore be cleaned under an extraction system or sufficient ventilation should be ensured by other means.

**10.4 Conditions to avoid** No further relevant information available.**10.5 Incompatible materials:** No further relevant information available.**10.6 Hazardous decomposition products:** No dangerous decomposition products known

## 11 Toxicological information

**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values that are relevant for classification:**

62-56-6 thiourea		
Oral	LD50	1,750 mg/kg (rat)
Dermal	LD50	2,800 mg/kg (rabbit)
Inhalative	LC50/4h	>0.1 mg/l (rat)
7664-93-9 sulphuric acid		
Oral	LD50	2,140 mg/kg (rat)
Inhalative	LC50/2h	510 mg/l (rat)
9043-30-5 Isotridecanol, ethoxylated		
Oral	LD50	556 mg/kg (rat)

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Dermal	LD50	>2,000 mg/kg (rabbit)
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**Primary irritant effect:****Skin corrosion/irritation** Causes severe skin burns and eye damage.**Serious eye damage/irritation** Causes serious eye damage.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Suspected of causing cancer.**Reproductive toxicity** Suspected of damaging the unborn child.**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure** Based on available data, the classification criteria are not met.**Aspiration hazard** Based on available data, the classification criteria are not met.**Additional toxicological information:****CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

Carc. 2, Repr. 2

**11.2 Information on other hazards****Endocrine disrupting properties**

None of the ingredients is listed.

## 12 Ecological information

**12.1 Toxicity****Aquatic toxicity:****62-56-6 thiourea**

LC50/96 h 1,000 mg/l (bacydanio rerio / zebra danio)

LC50/48 h &gt;1,000 mg/l (Leuciscus-Idus / Goldorfe)

EC50/24 h 110 mg/l (Daphnia Magna)

EC50/96h 6.8 mg/l (Scenedesmus subspicatus)

**7664-93-9 sulphuric acid**

LC50/96 h 42 mg/l (Gambusia affinis / Koboldkärpfling)

EC50/24 h 29 mg/l (Daphnia Magna)

EC50/48h 70-80 mg/l (Crangon crangon (Garnele))

**9043-30-5 Isotridecanol, ethoxylated**

NOEC (21 d) 2.48-3.76 mg/l (Daphnia Magna)

LC50/96 h &gt;1-10 mg/l (bacydanio rerio / zebra danio)

EC50/48h &gt;1-10 mg/l (Daphnia Magna)

EC50/72h 1-10 mg/l (algae)

**12.2 Persistence and degradability****9043-30-5 Isotridecanol, ethoxylated**

OECD 301 B &gt;60 % (-)

**Degree of elimination:**

The whole Product is biodegradable to over 90 % due to OECD-Method 301-B. Therefore it can be named as easily biodegradable.

**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.**12.7 Other adverse effects****Remark:** Harmful to fish**Additional ecological information:****General notes:**

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Harmful to aquatic organisms

Water danger class 3 (German Regulation): extremely hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even small quantities leak into soil.

The material is harmful for the environment.

## 13 Disposal considerations

**13.1 Waste treatment methods****Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.**European waste catalogue**

The information on the new European waste catalog is essentially based on the use of the product. Here we can not make specific statements about the different fields of application of our products.

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**Uncleaned packagings:****Recommendation:**

Packaging can be reused or recycled after cleaning.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

**Recommended cleaning agent:** Clean with water

## 14 Transport information

**14.1 UN number or ID number**

ADR, IMDG, IATA

UN3264

**14.2 UN proper shipping name**

ADR

3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(SULPHURIC ACID)

IMDG, IATA

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(SULPHURIC ACID)**14.3 Transport hazard class(es)**

ADR

Class  
Label8 (C1) Corrosive substances.  
8

IMDG, IATA

Class  
Label8 Corrosive substances.  
8**14.4 Packing group**

ADR, IMDG, IATA

III

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user**

Warning: Corrosive substances.

**Kemler Number:**

80

**EMS Number:**

F-A,S-B

**Segregation groups**

(SGG1) Acids

**Stowage Category**

A

**Stowage Code**

SW2 Clear of living quarters.

**Segregation Code**

SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**Transport/Additional information:**

Not dangerous according to the above specifications.

ADR

**Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**Transport category**

3

**Tunnel restriction code**

E

IMDG

**Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**UN "Model Regulation":**UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(SULPHURIC ACID), 8, III

## 15 Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

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**Hazard pictograms****Signal word** Danger**Hazard-determining components of labelling:**

sulphuric acid  
thiourea  
Isotridecanol, ethoxylated

**Hazard statements**

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H351 Suspected of causing cancer.  
H361d Suspected of damaging the unborn child.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P234 Keep only in original packaging.  
P260 Do not breathe dusts or mists.  
P264 Wash thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
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.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER/doctor.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P406 Store in a corrosion resistant container / container with a resistant inner liner.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Directive 2012/18/EU****Named dangerous substances - ANNEX I** None of the ingredients is listed.**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

<b>DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II</b>	
None of the ingredients is listed.	
<b>REGULATION (EU) 2019/1148</b>	
<b>Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))</b>	
None of the ingredients is listed.	
<b>Annex II - REPORTABLE EXPLOSIVES PRECURSORS</b>	
None of the ingredients is listed.	
<b>Regulation (EC) No 273/2004 on drug precursors</b>	
7664-93-9   sulphuric acid	3
<b>Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors</b>	
7664-93-9   sulphuric acid	3

**National regulations****Decree to be applied in case of technical fault:**

Class	Share in %
1	2.5-10

**Suisse VOC-Content:** 0.00 %**Water hazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.

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- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H411 Toxic to aquatic life with long lasting effects.

**Department issuing data specification sheet:** Product Safety Department

**Version number of previous version:** 1

**Abbreviations and acronyms:**

- Met. Corr.1: Corrosive to metals – Category 1
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Carc. 2: Carcinogenicity – Category 2
- Repr. 2: Reproductive toxicity – Category 2
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3