

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 25.10.2023

Version number 35 (replaces version 34)

Revision: 25.10.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Product name:** Vario ECR-Masking RGT

· **Catalog number:** 531625, 4531625, 424453, 531625-0

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

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**

ammonium fluoride

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Hazard statements

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H319 Causes serious eye irritation.

Precautionary statements

P261 Avoid breathing mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection.

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.

P302+P352 IF ON SKIN: Wash with plenty of water.

P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

2.3 Other hazards CAS 12125-01-8: Danger by skin resorption.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: aqueous solution

Dangerous components:

| | | |
|--|---|--------|
| CAS: 3012-65-5 EINECS: 221-146-3 | diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate ⚠ Eye Irrit. 2, H319 | 10–20% |
| CAS: 12125-01-8 EINECS: 235-185-9 Index No: 009-006-00-8 | ammonium fluoride ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 | 10–20% |

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

SECTION 4: First aid measures

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

After inhalation Supply fresh air or oxygen; call for doctor.

After skin contact

Instantly rinse with water.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after swallowing:

sickness

vomiting

diarrhoea

after absorption of large amounts:

drop in blood pressure

narcotic conditions

CNS disorders

respiratory paralysis

cramps

Danger

Danger of pulmonary oedema.

Danger of disturbed cardiac rhythm.

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4.3 Indication of any immediate medical attention and special treatment needed:

Antidotes: Calcium gluconate gel (dermal) / 1% calcium gluconate solution (oral)

SECTION 5: Firefighting measures

5.1 Extinguishing media
5.2 Suitable extinguishing agents Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Hydrogen fluoride (HF)

Nitrogen oxides (NO_x)NH₃
5.3 Advice for firefighters
Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel:

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

Use breathing protection against the effects of fumes/dust/aerosol.

Advice for emergency responders: Protective equipment: see section 8

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Neutralize with lime sand, lime or sodium bicarbonate.

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

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling:

Open and handle container with care.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Hygiene measures:

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

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

Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and containers:

Store in cool location.

Store only in the original container.

Unsuitable material for container: glass

Unsuitable material for container: metals, metal alloys

Information about storage in one common storage facility: Do not store together with acids.

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Further information about storage conditions:

- Keep container tightly sealed.
- Protect from heat and direct sunlight.
- Protect from the effects of light.
- Protect from humidity and keep away from water.

Recommended storage temperature: 20°C +/- 5°C

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
CAS: 12125-01-8 ammonium fluoride

| | |
|------------------------|--|
| WEL (Great Britain) | Long-term value: 2.5 mg/m ³ as F |
| IOELV (European Union) | Long-term value: 2.5 mg/m ³ as F |

Regulatory information

WEL (Great Britain): EH40/2020
IOELV (European Union): (EU) 2019/1831

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

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

8.2 Exposure controls
Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

Eye/face protection Safety glasses

Hand protection

Protective gloves.
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Other skin protection (body protection): Protective work clothing.

Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.

Recommended filter device for short term use: Combination filter B-P3

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|-----------------|
| Physical state | Fluid |
| Form: | Solution |
| Colour: | Colourless |
| Odour: | Odourless |
| Odour threshold: | Not applicable. |
| Melting point/Freezing point: | Not determined. |
| Boiling point or initial boiling point and boiling range | Not determined. |

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| | |
|---|---------------------------------|
| · Flammability | The product is not combustible. |
| · Explosive properties: | Product is not explosive. |
| · Lower and upper explosion limit | |
| Lower: | Not applicable. |
| Upper: | Not applicable. |
| · Flash point: | Not applicable. |
| · Auto-ignition temperature: | Not applicable. |
| · Decomposition temperature: | ~100°C (CAS 12125-01-8) |
| · pH at 20°C | 5.1 |
| · Kinematic viscosity | Not determined. |
| · Solubility | |
| · Water: | Fully miscible |
| · Partition coefficient n-octanol/water (log value) | Not applicable (mixture). |
| · Vapour pressure: | Not determined. |
| · Density and/or relative density | |
| · Density at 20°C: | 1.09 g/cm ³ |
| · Relative density: | Not determined. |
| · Relative gas density | Not determined. |
| · Particle characteristics | Not applicable (liquid). |
| · 9.2 Other information | |
| · Information with regard to physical hazard classes | |
| · Corrosive to metals | Void |
| · Other safety characteristics | |
| · Oxidising properties: | none |
| · Additional information | |
| · Solids content: | < 40 % |
| · Solvent content: | |
| · Water: | > 60 % |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 - Forms hydrogen in aqueous solution with metals
 - Reacts with halogenated compounds
 - Reacts with strong oxidizing agents
 - Contact with strong acids releases hydrogen fluoride
 - Attacks materials containing glass and silicate
- **10.4 Conditions to avoid** To avoid thermal decomposition do not overheat.
- **10.5 Incompatible materials:**
 - metals
 - glass
- **10.6 Hazardous decomposition products:**
 - Hydrogen fluoride
 - Poisonous gases/vapours
 - Corrosive gases/vapours
 - Ammonia (NH₃)
 - In case of fire: see section 5.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
 - Classification according to calculation procedure:
 - Harmful if swallowed, in contact with skin or if inhaled.

| | | |
|--|--------------------------|----------------|
| · Acute toxicity estimate (ATE_(MIX)) - Calculation method: | | |
| Oral | CLP ATE _(MIX) | 554 mg/kg (.) |
| Dermal | CLP ATE _(MIX) | 1663 mg/kg (.) |

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| | | |
|---|--------------------------|------------------------------------|
| Inhalative | CLP ATE _(MIX) | 2.8 mg/l/4h (aerosol (dust, mist)) |
| LD/LC50 values that are relevant for classification: | | |
| CAS: 12125-01-8 ammonium fluoride | | |
| Oral | LD50 | 100 mg/kg (ATE) |
| Dermal | LD50 | 300 mg/kg (ATE) |
| Inhalative | LC50/4h | 0.5 mg/l (ATE) |
| | LD50 IPR | 32 mg/kg (rat) |

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **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** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -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:**
CAS 12125-01-8: Danger by skin resorption.
chronic ingestion: contains fluoride which may affect behaviour / central nervous system, respiration, cardiovascular system, liver, urinary system, brain, metabolism
chronic toxic effect: fluorosis
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **Other information**
Other dangerous properties can not be excluded.
According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

| | | |
|--|--------------|------------------|
| CAS: 12125-01-8 ammonium fluoride | | |
| LC50 | 364 mg/l/96h | (fathead minnow) |

· Other information:

- Toxic for fish:
 $\text{NH}_4^+ > 0.3 \text{ mg/l}$
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential**
Pow = n-octanol/wasser partition coefficient
 $\log \text{Pow} < 1 =$ Does not accumulate in organisms.

| | | |
|---|-------|-----|
| CAS: 3012-65-5 diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate | | |
| log Pow | -2.84 | (.) |
| CAS: 12125-01-8 ammonium fluoride | | |
| log Pow | -4.37 | (.) |

- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects** Avoid transfer into the environment.
- **Water hazard:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

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

SECTION 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. Hand over to disposers of hazardous waste.

European waste catalogue

16 05 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN number or ID number
ADR, IMDG, IATA

Void

14.2 UN proper shipping name
ADR, IMDG, IATA

Void

14.3 Transport hazard class(es)
ADR, IMDG, IATA
Class

Void

14.4 Packing group
ADR, IMDG, IATA

Void

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:

Not dangerous according to the above specifications.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Poisons Act UK
Regulated explosives precursors

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

Reportable explosives precursors

None of the ingredients is listed.

Reportable poisons

CAS: 12125-01-8 ammonium fluoride

Listed

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated

Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

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| |
|--|
| · Regulation (EC) No 273/2004 on drug precursors |
| None of the ingredients is listed. |
| · Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors |
| None of the ingredients is listed. |
| · Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: |
| None of the ingredients is listed. |
| · REGULATION (EU) 2019/1021 on persistent organic pollutants (POP) |
| None of the ingredients is listed. |
| · LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV) |
| None of the ingredients is listed. |
| · Substances of very high concern (SVHC) according to REACH, Article 57 This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w). |
| · Substances of very high concern (SVHC) according to UK REACH This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w). |
| · Directive 2012/18/EU (SEVESO III): |
| · Named dangerous substances - ANNEX I None of the ingredients is listed. |
| · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 65 |
| · Information about limitation of use: Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC). |
| · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out. |

SECTION 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.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

· **Abbreviations and acronyms:**

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

· **Sources** Data arise from safety data sheets, reference works and literature.

· *** Data compared to the previous version altered.**