

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 09/18/2017

Reviewed on 09/18/2017

1 Identification

- **Product identifier**
- **Trade name:** Vario ECR-Masking RGT
- **Catalogue number:** 531625, 4531625, 424453
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



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. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



- **Signal word** Warning
- **Hazard-determining components of labeling:**
ammonium fluoride
- **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.
P302+P352 If on skin: Wash with plenty of water.
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.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.
- **Other hazards** CAS 12125-01-8: Danger through skin absorption.

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 12125-01-8 EINECS: 235-185-9 Index number: 009-006-00-8 RTECS: BQ 6300000	ammonium fluoride ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	10–20%
CAS: 3012-65-5 EINECS: 221-146-3	diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate 🔥 Eye Irrit. 2A, H319	10–20%

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

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:**
Immediately rinse with plenty of water.
Seek immediate medical advice.
- **After eye contact:** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment.
- **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 edema.
Danger of disturbed cardiac rhythm.
- **Indication of any immediate medical attention and special treatment needed:** Antidote: calcium gluconate

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **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.
In case of fire, the following can be released:
Hydrogen fluoride (HF)
Nitrogen oxides (NO_x)
NH₃
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **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 respiratory protective device against the effects of fumes/dust/aerosol.
- **Advice for emergency responders:** Protective equipment: see section 8
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **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 contaminated material as waste according to item 13.
- **Reference to other sections**
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
- **Advice on safe handling:**
 - Open and handle receptacle 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 before breaks and at the end of work.
 - Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Store in a cool location.
 - Store only in the original receptacle.
 - 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.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Protect from heat and direct sunlight.
 - Protect from exposure to the light.
 - Protect from humidity and water.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 12125-01-8 ammonium fluoride

PEL (USA)	Long-term value: 2.5 mg/m ³ as F
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REL (USA)	Long-term value: 2.5 mg/m ³ as F
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TLV (USA)	Long-term value: 2.5 mg/m ³ as F, BEI
EL (Canada)	Long-term value: 2.5 mg/m ³ as F

· Ingredients with biological limit values:	
CAS: 12125-01-8 ammonium fluoride	
BEI (USA)	2 mg/L Medium: urine Time: prior to shift Parameter: Fluoride (background, nonspecific)
	3 mg/L Medium: urine Time: end of shift Parameter: Fluoride (background, nonspecific)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Combination filter B-P3
- **Protection of hands:**
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.
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Liquid
Color:	Colorless
· Odor:	Odorless
· Odor threshold:	Not applicable.
· pH-value at 20°C (68 °F):	5.1
· Melting point/freezing point:	Not determined.
· Initial boiling point and boiling range:	Not applicable.
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	~100°C (~212 °F) (CAS 12125-01-8)
· Auto-ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Flammability or explosive limits:	
Lower:	Not applicable.

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Upper:	Not applicable.
· Oxidizing properties:	none
· Vapor Pressure:	Not determined.
· Density at 20°C (68 °F):	1.09g/cm ³ (9.1 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies)	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	Not determined.
· Solvent content:	
Water:	> 60%
Solids content:	< 40%
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

· Acute toxicity estimate (ATE_(MIX)) - Calculation method:

Oral	GHS ATE _(MIX)	554 mg/kg (.)
Dermal	GHS ATE _(MIX)	1663 mg/kg (.)
Inhalative	GHS ATE _(MIX)	2.8 mg/l/4h (aerosol)

· 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	0.5 mg/l/4h (ATE)
	LD50 IPR	32 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Causes serious eye irritation.

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- **Sensitization:** Based on available data, the classification criteria are not met.

- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)	
CAS: 12125-01-8 ammonium fluoride	3

· NTP (National Toxicology Program)
None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **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:**

chronic ingestion: contains fluoride which may affect behaviour / central nervous system, respiration, cardiovascular system, liver, urinary system, brain, metabolism

chronic toxic effect: fluorosis

Other dangerous properties can not be excluded.

12 Ecological information

- **Toxicity**

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

- **Other information:**

Toxic for fish:

NH₄⁺ > 0.3 mg/l

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

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

- **Mobility in soil** No further relevant information available.

- **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

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· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number · DOT, IMDG, IATA	none
· UN proper shipping name · DOT, IMDG, IATA	none
· Transport hazard class(es) · DOT, IMDG, IATA · Class	none
· Packing group · DOT, IMDG, IATA	none
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

15 Regulatory information

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

· Section 355 (Extremely hazardous substances):	None of the ingredients is listed.	
· Section 313 (Specific toxic chemical listings):	None of the ingredients is listed.	
· TSCA (Toxic Substances Control Act):	All ingredients are listed.	
· Proposition 65		
· Chemicals known to cause cancer:	None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for males:	None of the ingredients is listed.	
· Chemicals known to cause developmental toxicity:	None of the ingredients is listed.	
· New Jersey Right-to-Know List:		
CAS: 12125-01-8	ammonium fluoride	
CAS: 3012-65-5	diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate	
· New Jersey Special Hazardous Substance List:	None of the ingredients is listed.	
· Pennsylvania Right-to-Know List:		
CAS: 12125-01-8	ammonium fluoride	
CAS: 3012-65-5	diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate	
· Pennsylvania Special Hazardous Substance List:		
CAS: 12125-01-8	ammonium fluoride	E
CAS: 3012-65-5	diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate	E

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<ul style="list-style-type: none"> · EPA (Environmental Protection Agency)
None of the ingredients is listed.
<ul style="list-style-type: none"> · NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

- **Information about limitation of use:**

Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning young persons must be observed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.

- **Date of preparation / last revision** 09/18/2017 / 31

- **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
ACGIH® - American Conference of Governmental Industrial Hygienists
•A1 - Confirmed human carcinogen
•A2 - Suspected human carcinogen
•A3 - Confirmed animal carcinogen with unknown relevance to humans
•A4 - Not classifiable as a human carcinogen
•A5 - Not suspected as a human carcinogen
IARC - International Agency for Research on Cancer
•Group 1 - Carcinogenic to humans
•Group 2A - Probably carcinogenic to humans
•Group 2B - Possibly carcinogenic to humans
•Group 3 - Not classifiable as to carcinogenicity to humans
•Group 4 - Probably not carcinogenic to humans
NTP - National Toxicology Program, U.S. Department of Health and Human Services
•Group K - Known to be Human Carcinogens
•Group R - Reasonably Anticipated to be Human Carcinogens
ADR: Accord européen sur le transport 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
DOT: US Department of Transportation
IATA: International Air Transport Association
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
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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

US