

SAFETY DATA SHEET

Issue Date 07-Nov-2018 Revision Date Version 3.4 Page 1 / 13

10-Aug-2021

1. IDENTIFICATION

Product identifier

Product Name ECR Masking Reagent Solution

Other means of identification

Product Code(s) 2380123

Safety data sheet number M00197

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Determination of aluminum.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger

EN / AGHS Page 1/13

Product Name ECR Masking Reagent Solution

Revision Date 10-Aug-2021

Page 2/13



Hazard statements

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements

P270 - Do not eat, drink or smoke when using this product

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P330 - Rinse mouth

P501 - Dispose of contents/ container to an approved waste disposal plant

P280 - Wear protective gloves, protective clothing, eye protection, and face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P363 - Wash contaminated clothing before reuse

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 or doctor/physician

P271 - Use only outdoors or in a well-ventilated area

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Other Hazards Known

Causes mild skin irritation

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family

Mixture.

Chemical nature Aqueous solution of organic and inorganic salts.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Ammonium citrate, dibasic	3012-65-5	10 - 20%	-
Ammonium fluoride	12125-01-8	10 - 20%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

EN / AGHS Page 2/13

Product Name ECR Masking Reagent Solution

Revision Date 10-Aug-2021

Page 3 / 13

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or

concerned: Get medical advice/attention.

Eve contact Get immediate medical advice/attention. Rinse immediately with plenty of water, also under

the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. If symptoms

persist, call a physician.

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Ingestion

Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or

clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Note to physicians

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

chemical

No information available.

Hazardous combustion products This material will not burn.

Special protective equipment for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice Only persons properly qualified to respond to an emergency involving hazardous

substances may respond to a spill according to federal regulations (OSHA 29 CFR

1910.120(a)(v)) and per your company's emergency response plan and

guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations

should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal **Personal precautions**

protective equipment as required. Evacuate personnel to safe areas.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

EN / AGHS 3 / 13 Page

Product Name ECR Masking Reagent Solution

Revision Date 10-Aug-2021

Page 4 / 13

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sectionsSee section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Avoid breathing vapors or mists. In case of insufficient ventilation, wear

suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach

of children. Store locked up.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Ammonium fluoride	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ F
CAS#: 12125-01-8	-	(vacated) TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ F

Appropriate engineering controls

Engineering Controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

exceeded or irritation is experienced, ventilation and evacuation may be required. Wear

breathing apparatus if exposed to vapors/dusts/aerosols.

Hand Protection Wear suitable gloves. Gloves must be inspected prior to use. The selected protective

gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III

according to EN 374-1:2016.

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

EN / AGHS Page 4/13

Product Name ECR Masking Reagent Solution

Revision Date 10-Aug-2021

Page 5 / 13

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not

allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

Liquid

Appearance clear Odor Odorless Color colorless
Odor threshold Not applicable

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight Not applicable

pH 5.85 - 6.15 @ 20 °C

Melting point/freezing point $-24~^{\circ}\text{C}~/~-11.2~^{\circ}\text{F}$ Boiling point / boiling range $99~^{\circ}\text{C}~/~210.2~^{\circ}\text{F}$

Evaporation rate 0.68 (water = 1)

Vapor pressure 20.927 mm Hg / 2.79 kPa at 25 °C / 77 °F

Relative vapor density 0.62

Specific gravity (water = 1 / air = 1) 1.147

Partition Coefficient (n-octanol/water) No data available

Soil Organic Carbon-Water Partition

Coefficient
Autoignition temperature

No data available

No data available

Decomposition temperature No data available

Dynamic viscosity

No data available

Kinematic viscosity No data available

Solubility(ies)

Water solubility

Water solubility classification	Water solubility_	Water Solubility Temperature_
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	<u>Solubility</u>	Solubility Temperature
None reported	No information available	No data available	No information available

Other information

EN / AGHS Page 5/13

Product Name ECR Masking Reagent Solution **Revision Date** 10-Aug-2021

Page 6 / 13

Metal Corrosivity

Steel Corrosion Rate0.3 mm/yr / 0.01 in/yrAluminum Corrosion Rate0.15 mm/yr / 0.01 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Ammonium citrate, dibasic	3012-65-5	No data available	-
Ammonium fluoride	12125-01-8	No data available	-

Explosive properties

Upper explosion limitNot applicableLower explosion limitNot applicable

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit:No data availableLower flammability limit:No data available

Oxidizing properties No data available.

Bulk density Not applicable

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Ammonia. Nitrogen oxides. Hydrogen fluoride.

EN / AGHS Page 6/13

Product Name ECR Masking Reagent Solution **Revision Date** 10-Aug-2021

Page 7 / 13

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation of respiratory tract.

Eye contact Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause

irreversible damage to eyes.

Skin contact May cause irritation. May be absorbed through the skin in harmful amounts. Harmful in

contact with skin.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if

swallowed.

Symptoms Redness. Burning. May cause blindness.

Acute toxicity

Harmful if swallowed
Harmful in contact with skin

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium fluoride (10 - 20%) CAS#: 12125-01-8	Rat LD ₅₀	> 200 mg/kg	None reported	None reported	USDA (United States Department of Agriculture)

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium fluoride (10 - 20%) CAS#: 12125-01-8	Rat LC ₅₀	1 mg/L	4 hours	None reported	USDA (United States Department of Agriculture)

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	1,274.40 mg/kg
ATEmix (dermal)	1,911.70 mg/kg
ATEmix (inhalation-dust/mist)	6.37 mg/l

EN / AGHS Page 7/13

Product Name ECR Masking Reagent Solution **Revision Date** 10-Aug-2021

Page 8 / 13

ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

May cause skin irritation.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

May cause respiratory irritation.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

May cause damage to organs.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Based on available data, the classification criteria are not met.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Ammonium citrate, dibasic	3012-65-5	-	-	-	-
Ammonium fluoride	12125-01-8	-	Group 3	-	-

EN / AGHS Page 8/13

Product Name ECR Masking Reagent Solution **Revision Date** 10-Aug-2021

Page 9 / 13

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human
	carcinogen
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of	Does not apply
Labor)	

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Based on available data, the classification criteria are not met.

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic

environment.

Product Ecological Data

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Crustacea

Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
	time		type	dose	sources for data

EN / AGHS Page 9/13

Product Name ECR Masking Reagent Solution **Revision Date** 10-Aug-2021

Page 10 / 13

Ammonium fluoride	48 Hours	None reported	EC50	66 mg/L	ECHA (The European Chemicals
(10 - 20%)					Agency)
CAS#: 12125-01-8					- '

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)

No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient No data available

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number Not applicable

Special instructions for disposal

If permitted by regulation. Work in an approved fume hood. Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

<u>IATA</u> Not regulated

<u>IMDG</u> Not regulated

Note: No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

EN / AGHS Page 10/13

Product Name ECR Masking Reagent Solution

Revision Date 10-Aug-2021

Page 11 / 13

National Inventories

TSCA Complies DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Ammonium citrate, dibasic (CAS #: 3012-65-5)	1.0
Ammonium fluoride (CAS #: 12125-01-8)	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable	CWA - Toxic Pollutants	CWA - Priority	CWA - Hazardous
	Quantities		Pollutants	Substances
Ammonium citrate, dibasic 3012-65-5	5000 lb	-	-	X
Ammonium fluoride 12125-01-8	100 lb	-	-	Х

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

EN / AGHS Page 11/13

Product Name ECR Masking Reagent Solution **Revision Date** 10-Aug-2021

Page 12 / 13

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ammonium citrate, dibasic	5000 lb	-	RQ 5000 lb final RQ
3012-65-5			RQ 2270 kg final RQ
Ammonium fluoride	100 lb	-	RQ 100 lb final RQ
12125-01-8			RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Ammonium citrate, dibasic 3012-65-5	Х	X	X
Ammonium fluoride 12125-01-8	Х	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA	
Ammonium citrate, dibasic	-	21 CFR 184.1140	
Ammonium fluoride	180.0145	-	

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Not applicable

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 0	Instability - 0	Physical and chemical
				properties -
HMIS	Health hazards - 3	Flammability - 0	Physical hazards - 0	Personal protection -
	- *	-	-	×
				- I

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH Immediately Dangerous to Life or Health

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)

NDF no data

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

EN / AGHS Page 12/13

Product Name ECR Masking Reagent Solution

Revision Date 10-Aug-2021

Page 13 / 13

MAC Maximum Allowable Concentration Ceiling Ceiling Limit Value

X Listed Vacated These values have no official status. The only

binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state

regulations.

SKN* Skin designation SKN+ Skin sensitization
RSP+ Respiratory sensitization ** Hazard Designation
C Carcinogen R Reproductive toxicant

M mutagen

Prepared By Hach Product Compliance Department

Issue Date 07-Nov-2018

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Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet

EN / AGHS Page 13/13