Safety Data Sheet
RU5DG-C

Safety Data Sheet dated 20/5/2015, version 1

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

1.1. Product identifier

Mixture identification:

Trade name: RU5DG-C

Trade code: AP032-381

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

Recommended use:

For electroplating industry

1.3. Details of the supplier of the safety data sheet

Company:

LEGOR GROUP S.p.A.
Via del Lavoro, 1
36050 Bressanvido (VI)
Italy

LEGOR GROUP S.p.A.
tel. +39 0444 467911 fax +39 0444 660677

Competent person responsible for the safety data sheet:

info@legor.com

1.4. Emergency telephone number

Centro Antiveleni
Ospedale di Niguarda "Ca Grande"
Piazza Ospedale Maggiore 3
20162 Milano
Telephone: +39 (0) 2/66 10 10 29
Telefax: +39 (0) 2/64 44 27 68
Italiano (French, English)
(24-hour-service)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:

Properties / Symbols:

Xn Harmful
Xi Irritant

R Phrases:

R22 Harmful if swallowed.
R36/38 Irritating to eyes and skin.

EC regulation criteria 1272/2008 (CLP):

Danger, Skin Corr. 1A, Causes severe skin burns and eye damage.
Danger, Eye Dam. 1, Causes serious eye damage.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Symbols:

Danger

Hazard statements:
H314 Causes severe skin burns and eye damage.
Precautionary statements:
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with applicable regulations.
Special Provisions:
PACK1 The packing must be featured by a safety lock for children and have a tactive indications for blind people.
PACK2 The packing must have tactive indications of danger for blind people.
Contents:
Ruthenium Trichloride
Special provisions according to Annex XVII of REACH and subsequent amendments:
None
2.3. Other hazards
vPvB Substances: None - PBT Substances: None
Other Hazards:
No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances
N.A.
3.2. Mixtures
Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:
>= 7% - < 10% sulphamidic acid; sulphamic acid; sulfamic acid
Index number: 016-026-00-0, CAS: 5329-14-6, EC: 226-218-8
Xi; R36/38-52/53
3.3/2 Eye Irrit. 2 H319
3.2/2 Skin Irrit. 2 H315
4.1/C3 Aquatic Chronic 3 H412

>= 1% - < 3% Ammonium Sulfamate
CAS: 7773-06-0, EC: 231-871-7
Xn,N; R22-50
3.1/4/Oral Acute Tox. 4 H302
4.1/A1 Aquatic Acute 1 H400

>= 1% - < 3% Ruthenium Trichloride
CAS: 10049-08-8, EC: 233-167-5
Xn,C; R22-34
3.1/4/Oral Acute Tox. 4 H302
3.2/1B Skin Corr. 1B H314

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:
Immediately take off all contaminated clothing.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
Remove contaminated clothing immediately and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.
In case of eyes contact:
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.
In case of Ingestion:
Give nothing to eat or drink.
In case of Inhalation:
Remove casualty to fresh air and keep warm and at rest.
4.2. Most important symptoms and effects, both acute and delayed
None
4.3. Indication of any immediate medical attention and special treatment needed
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
None

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Water.
Carbon dioxide (CO2).
Extinguishing media which must not be used for safety reasons:
None in particular.
5.2. Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
5.3. Advice for firefighters
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.
6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand
6.3. Methods and material for containment and cleaning up
Wash with plenty of water.
6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No occupational exposure limit available

DNEL Exposure Limit Values

N.A.

PNEC Exposure Limit Values

N.A.

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour:	Dark brown liquid
Odour:	Odourless
Odour threshold:	N.A.
pH:	1
Melting point / freezing point:	n/a
Initial boiling point and boiling range:	n/a
Solid/gas flammability:	n/a
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	n/a
Flash point:	n/a ° C
Evaporation rate:	N.A.
Vapour pressure:	n/a
Relative density:	n/a
Solubility in water:	Total
Partition coefficient (n-octanol/water):	n/a
Auto-ignition temperature:	n/a
Decomposition temperature:	N.A.
Viscosity:	N.A.

Explosive properties: n/a
Oxidizing properties: n/a

9.2. Other information

Miscibility: N.A.
Fat Solubility: N.A.
Conductivity: N.A.
Substance Groups relevant properties N.A.

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions
10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
None
10.4. Conditions to avoid
Stable under normal conditions.
10.5. Incompatible materials
None in particular.
10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological information of the mixture:
N.A.
Toxicological information of the main substances found in the mixture:
RU5DG-C -
LD50 (oral) SULFAMIC ACID: 1450 mg/kg Rat; LD50 (Oral) AMONIUM SULFAMATE: 2000 mg/kg Rat.

If not differently specified, the information required in Regulation 453/2010/EC listed below must be considered as N.A.:

a) acute toxicity;
b) skin corrosion/irritation;
c) serious eye damage/irritation;
d) respiratory or skin sensitisation;
e) germ cell mutagenicity;
f) carcinogenicity;
g) reproductive toxicity;
h) STOT-single exposure;
i) STOT-repeated exposure;
j) aspiration hazard.

SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.
LC50 (96h): 0,9 mg/l Ictalurus punctatus.
N.A.
12.2. Persistence and degradability
None
N.A.
12.3. Bioaccumulative potential
N.A.
12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number

ADR-UN number:	3264
IATA-Un number:	3264
IMDG-Un number:	3264

14.2. UN proper shipping name

ADR-Shipping Name:	LIQUIDO INORGANICO CORROSIVO, ACIDO, N.A.S. (ACIDO SOLFAMMICO; RUTENIO TRICLORURO)
IATA-Technical name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHAMIC ACID; RUTHENIUM TRICHLORIDE)
IMDG-Technical name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHAMIC ACID; RUTHENIUM TRICHLORIDE)

14.3. Transport hazard class(es)

ADR-Class:	8
ADR-Label:	8
IATA-Class:	8
IATA-Label:	8
IMDG-Class:	8

14.4. Packing group

ADR-Packing Group:	II
IATA-Packing group:	II
IMDG-Packing group:	II

14.5. Environmental hazards

Marine pollutant:	No

14.6. Special precautions for user

ADR-Tunnel Restriction Code:	(E)
Rail (RID):	8
IATA-Passenger Aircraft:	851; qty. max.: 1 L
IATA-Cargo Aircraft:	855; qty. max.: 30 L
IMDG-Technical name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHAMIC ACID; RUTHENIUM TRICHLORIDE)
IMDG-EMS:	F-A, S-B

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

SECTION 15: Regulatory information

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

Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances)
Dir. 99/45/EC (Classification, packaging and labelling of dangerous preparations)
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Dir. 2006/8/EC
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 453/2010 (Annex I)
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

None

Where applicable, refer to the following regulatory provisions :

Directive 82/501/EEC ('Activities linked to risks of serious accidents') and subsequent amendments.
Regulation (EC) nr 648/2004 (detergents).
1999/13/EC (VOC directive)

15.2. Chemical safety assessment

No

SECTION 16: Other information

Text of phrases referred to under heading 3:

R22 Harmful if swallowed.
R34 Causes burns.
R36/38 Irritating to eyes and skin.
R50 Very toxic to aquatic organisms.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H319 Causes serious eye irritation.
H315 Causes skin irritation.
H412 Harmful to aquatic life with long lasting effects.
H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H314 Causes severe skin burns and eye damage.

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.
This document was prepared by a competent person who has received appropriate training.
Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
CCNL - Appendix 1
Insert further consulted bibliography

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport

	Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.