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

· ***1.1 Product identifier***

· ***Trade name:*** **TK101 RESIN - R**

· ***Article number:***
Other formats can be available upon request
Resin prepacked in cartridges.
In case of standard/conform use, there is no contact with the resin
TK101-R10-S, SA-TK101-R01-S

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

· ***Sector of Use*** SU24 Scientific research and development

· ***Application of the substance / the mixture*** Selective resin for Sr, Pb, Po separation

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

· ***Manufacturer/Supplier:***
Triskem International SAS
ZAC de l'Eperon
3 rue des Champs Géons
F-35170 Bruz
FRANCE
contact@triskem.fr

· ***Further information obtainable from:*** Product safety department

· ***1.4 Emergency telephone number:*** During normal opening times: +33 2 99 05 00 09

* SECTION 2: Hazards identification

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

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


GHS08 health hazard

STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure.


GHS07

Skin Irrit. 2	H315 Causes skin irritation.
Eye Irrit. 2	H319 Causes serious eye irritation.
STOT SE 3	H335 May cause respiratory irritation.
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***


GHS07 GHS08

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· ***Signal word*** Warning

· ***Hazard-determining components of labelling:***
Ionic liquid
Acrylic copolymer
Crown-ether

· ***Hazard statements***
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

· ***Precautionary statements***

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves / eye protection / face 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.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

*
SECTION 3: Composition/information on ingredients

· ***3.2 Chemical characterisation: Mixtures***
· ***Description:*** Mixture of substances listed below with nonhazardous additions.
· ***Dangerous components:***

polymeric support 50-100%
Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335

Crown-ether 10-25%
Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335

Ionic liquid 10-25%
Acute Tox. 2, H300; Acute Tox. 3, H311; STOT RE 2, H373; Skin Corr. 1B, H314; Aquatic Chronic 2, H411

· ***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:***
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
In case of irregular breathing or respiratory arrest provide artificial respiration.

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· ***After inhalation:***
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· ***After skin contact:*** Immediately wash with water and soap and rinse thoroughly.
· ***After eye contact:*** Rinse opened eye for several minutes under running water. Then consult a doctor.
· ***After swallowing:***
Do not induce vomiting; call for medical help immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.
· ***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.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***5.2 Special hazards arising from the substance or mixture***
Formation of toxic gases is possible during heating or in case of fire.
Carbon monoxide (CO)
· ***5.3 Advice for firefighters***
· ***Protective equipment:***
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
Wear fully protective suit.

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
Particular danger of slipping on leaked/spilled product.
· ***6.2 Environmental precautions:***
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· ***6.3 Methods and material for containment and cleaning up:***
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
Pick up mechanically.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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*
SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Provide suction extractors if dust is formed.
· ***Information about fire - and explosion protection:*** No special measures required.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** No special requirements.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:***
Keep container tightly sealed.
Protect from exposure to the light.
· ***7.3 Specific end use(s)***
Advised temperature of use: 20-25°C
Resin conditionned in cartridge. In standard use, no direct contact with the resin.
Dry resin pre-conditionned in cartridges
Use with vacuum or pressure to allow liquid to pass through

*
SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Additional information about design of technical facilities:*** No further data; see item 7.
· ***Ingredients 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.
· ***Additional information:*** The lists valid during the making were used as basis.

· ***8.2 Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
· ***Respiratory protection:*** Not necessary if room is well-ventilated.
· ***Protection of hands:***

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***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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· ***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.
· ***Eye protection:***

Safety glasses

· ***Body protection:*** Protective work clothing

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***

Form:	Powder
Colour:	White
· ***Odour:***	Characteristic
· ***Odour threshold:***	Not determined.
· ***pH-value:***	Not applicable.
· ***Change in condition***	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
· ***Flash point:***	Not applicable.
· ***Flammability (solid, gas):***	Not determined.
· ***Ignition temperature:***	427 °C
· ***Decomposition temperature:***	Not determined.
· ***Auto-ignition temperature:***	Product is not selfigniting.
· ***Explosive properties:***	Product does not present an explosion hazard.
· ***Explosion limits:***	
Lower:	Not determined.
Upper:	Not determined.
· ***Vapour pressure:***	Not applicable.
· ***Density:***	Not determined.
· ***Relative density***	Not determined.
· ***Vapour density***	Not applicable.
· ***Evaporation rate***	Not applicable.
· ***Solubility in / Miscibility with water:***	Insoluble.
· ***Particle size***	50-100µm
· ***Partition coefficient: n-octanol/water:***	Not determined.
· ***Viscosity:***	
Dynamic:	Not applicable.

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Kinematic: Not applicable.

· ***Solvent separation test:***
Organic solvents: 0.0 %

Solids content: 100.0 %

· ***9.2 Other information*** No further relevant information available.

SECTION 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 used according to specifications.
· ***10.3 Possibility of hazardous reactions***
Reacts with strong oxidising agents.
Reacts with flammable substances.
Toxic fumes may be released if heated above the decomposition point.
· ***10.4 Conditions to avoid*** No further relevant information available.
· ***10.5 Incompatible materials:*** No further relevant information available.

*
SECTION 11: Toxicological information

· ***11.1 Information on toxicological effects***
· ***Acute toxicity*** Based on available data, the classification criteria are not met.
· ***Primary irritant effect:***
· ***Skin corrosion/irritation***
Causes skin irritation.
· ***Serious eye damage/irritation***
Causes serious eye irritation.
· ***Respiratory or skin sensitisation*** Based on available data, the classification criteria are not met.
· ***Additional toxicological information:***
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***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-single exposure***
May cause respiratory irritation.
· ***STOT-repeated exposure***
May cause damage to organs through prolonged or repeated exposure.
· ***Aspiration hazard*** Based on available data, the classification criteria are not met.

*
SECTION 12: Ecological information

· ***12.1 Toxicity***
· ***Aquatic toxicity:*** No further relevant information available.
· ***12.2 Persistence and degradability*** No further relevant information available.
· ***12.3 Bioaccumulative potential*** No further relevant information available.
· ***12.4 Mobility in soil*** No further relevant information available.
· ***Ecotoxical effects:***
· ***Remark:*** Harmful to fish

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· ***Additional ecological information:***
· ***General notes:***
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Harmful to aquatic organisms
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.
· ***12.6 Other adverse effects*** No further relevant information available.

SECTION 13: Disposal considerations

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

· ***Uncleaned packaging:***
· ***Recommendation:*** Disposal must be made according to official regulations.

SECTION 14: Transport information

· ***14.1 UN-Number***	
· ***ADR, ADN, IMDG, IATA***	Void
· ***14.2 UN proper shipping name***	-
· ***ADR, ADN, IMDG, IATA***	Void
· ***14.3 Transport hazard class(es)***	
· ***ADR, ADN, IMDG, IATA***	
· ***Class***	Void
· ***14.4 Packing group***	-
· ***ADR, IMDG, IATA***	Void
· ***14.5 Environmental hazards:***	
· ***Marine pollutant:***	No
· ***14.6 Special precautions for user***	Not applicable.
· ***14.7 Transport in bulk according to Annex II of Marpol and the IBC Code***	Not applicable.
· ***UN "Model Regulation":***	Void

SECTION 15: Regulatory information

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

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** None of the ingredients is listed.
· ***DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II***
None of the ingredients is listed.

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

SECTION 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***
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

· ***Department issuing SDS:*** Product safety department
· ***Contact:*** Aude Bombard
· ***Abbreviations and acronyms:***
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – 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
· **** Data compared to the previous version altered.***