

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 1/15 Replaces revision: 1 (Revision date: 05/09/2019)

Safety Data Sheet

Compliant with Annex II of REACH - Regulation 2015/830

SECTION 1. Identification of the substance / mixture e of the company / firm

1.1. Product identifier Code:

Name	RY STAR FIX B
Chemical name and synonyms	hexamethylene diisocyanate, oligomer
EC number	
CAS number	
Registration number	

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

Description / Use	Two-component adhesive - part B
-------------------	--

Cross-linker for coating materials or adhesives for industrial applications

Identified Uses	Industrial	Professional	Consumption
Industrial	+	-	-

1.3. Information on the supplier of the data card

Business name	ROYAL SRL
Address	VIA G. MARCONI 123 / A
Location and State	24020 RANICA (BG)
	ITALY
	tel. +39 035244941
	fax +39 0352283819

e-mail of the competent person responsible for the safety data sheet

info@royaldiamondtools.com

1.4. Emergency telephone number

For urgent information contact

Turin Poison Control Center 011 6637637 (CAV Ospeda Milan Poison Control Center 02 66101029 (CAV Ospeda Pavia Poison Control Center 0382 24444 (CAV IRCCS Fo Bergamo Poison Control Center 800 883300 (CAV Ospeda Florence Poison Control Center 055 7947819) 06 3054343 (CAV Policlini Anti-poison Center of Rome 06 49978000 (CAV Policlin Anti-poison Center of Naples 081 7472870 (CAV Ospeda	le Molinette - Turin) le Niguarda - Milan) ndazione Maugeri -Pavia) Li Riuniti -Bergamo) ale Careggi - Florence) co Gemelli - Rome) nico Umberto I - Rome) le Cardarelli - Naples)
--	---

SECTION 2. Hazards identification

2.1. Substance or mixture classification

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 2/15 Replaces revision: 1 (Revision date: 05/09/2019)

The product is classified as dangerous pursuant to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adjustments). The product therefore requires a safety data sheet compliant with the provisions of Regulation (EU) 2015/830. Any additional information regarding risks to health and / or the environment are given in sections. 11 and 12 of this sheet.

Hazard classification and indications:

Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - single exposure, category 3	H335	It can irritate the respiratory tract.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

2.2. Label elements

Danger labeling pursuant to Regulation (EC) 1272/2008 (CLP) and subsequent amendments and adjustments.

Hazard pictograms:



Warnings: Caution

Hazard statements:

H332	Harmful if inhaled.
H335	It can irritate the respiratory tract.
H317	May cause an allergic skin reaction.

Precautionary advice:

P280	Wear protective gloves.
P261	Avoid breathing dust / fume / gas / mist / vapors / spray. If you feel unwell, call a POISON CENTER / doctor / . . . Keep container tightly closed and in a well-ventilated place.
P312	
P403 + P233	
P362 + P364	Remove contaminated clothing and wash it before wearing it again.

Contains: Hexamethylene diisocyanate, oligomers, biuret

From 24 August 2023, industrial or professional use is allowed only after having received adequate training.

EC No: 939-340-8

2.3. Other dangers

Based on the available data, the product does not contain PBT or vPvB substances in percentage \geq 0.1%.

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 3/15 Replaces revision: 1 (Revision date: 05/09/2019)

SECTION 3. Composition / information on ingredients nti

3.1. Substances

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Hexamethylene diisocyanate, oligomers, biuret CAS 28182-81-2 <small>THERE IS</small> 939-340-8 INDEX - Reg. No. 01-2119970543-34-XXXX	96≤x <100	Acute Tox. 4 H332, STOT SE 3 H335, Skin Sens. 1 H317
hexamethylene diisocyanate CAS 822-06-0 <small>THERE IS</small> - INDEX 615-011-00-1 Reg. No. 01-2119457571-37-XXXX		

The full wording of the hazard statements (H) is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove any contact lenses. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids well. Consult a physician if the problem persists.

SKIN: Take off contaminated clothing. Wash immediately and abundantly with water. If irritation persists, consult a physician. Wash the contaminated garments before reusing them.

INHALATION: Take the subject to fresh air. If breathing is difficult, call a doctor right away.

INGESTION: Get medical attention immediately. Induce vomiting only on medical advice. Do not administer anything by mouth if the subject is unconscious and if not authorized by the doctor.

4.2. Main symptoms and effects, both acute and delayed

Information not available

4.3. Indication of any need for immediate medical attention and special treatment

Information not available

SECTION 5. Firefighting measures

5.1. Fire fighting

SUITABLE EXTINGUISHING MEDIA

The extinguishing media are the traditional ones: carbon dioxide, foam, powder and nebulized water.

UNSUITABLE EXTINGUISHING MEDIA

No one in particular.

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 4/15 Replaces revision: 1 (Revision date: 05/09/2019)

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE Avoid breathing combustion products.

5.3. Recommendations for firefighters

GENERAL INFORMATIONS

Cool the containers with jets of water to avoid product decomposition and the development of substances potentially hazardous to health. Always wear full fire protection equipment. Collect the extinguishing water which must not be discharged into the sewers. Dispose of the contaminated water used for extinguishing and the residue of the fire according to current regulations.

EQUIPMENT

Normal clothing for firefighting, such as an open circuit compressed air breathing apparatus (EN 137), flame retardant suit (EN469), flame retardant gloves (EN 659) and boots for Firefighters (HO A29 or A30).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop the leak if there is no danger.

Wear suitable protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing. These indications are valid both for the workers and for emergency interventions.

6.2. Environmental precautions

Prevent the product from entering sewers, surface water, groundwater.

6.3. Methods and materials for containment and cleaning up

Suck up the leaked product into a suitable container. Evaluate the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material.

Provide sufficient ventilation of the place affected by the leak. The disposal of contaminated material must be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information regarding personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for Safe Handling

Handle the product after consulting all the other sections of this safety data sheet. Avoid the dispersion of the product in the environment. Do not eat, drink or smoke during use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Keep only in the original container. Keep the containers closed, in a well-ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, checking section 10.

RY STAR FIX B

7.3. Specific end uses

Information not available

SECTION 8. Exposure controls / protection individual

8.1. Control parameters

Normative requirements:

EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161 / EU; Directive 2006/15 / EC; Directive 2004/37 / EC; Directive 2000/39 / EC; Directive 98/24 / EC; Directive 91/322 / EEC.
----	--------	---

Hexamethylene diisocyanate, oligomers, biuret

Predicted No Effect Concentration on the Environment - PNEC

Reference value in fresh water	NPI
Reference value in sea water	NPI
Reference value for sediments in fresh water	NPI
Reference value for sediments in sea water	NPI
Reference value for water, intermittent release	NPI
Reference value for STP microorganisms	6.46 mg / l
Reference value for the food chain (secondary poisoning)	NPI
Reference value for the terrestrial compartment	NPI
Reference value for the atmosphere	NPI

Health - Derived no-effect level - DNEL / D

MEL

Route of Exposition	Effects on consumers		Effects on workers			Systemic acute	Chronic local	Systemic chronic
	Acute premises	Acute systemic	Chronic local	Systemic chronic	Acute premises			
Inhalation					1 mg / m3	NPI	0.5 mg / m3	NPI
Dermal						NPI		NPI

hexamethylene diisocyanate

Threshold Limit Value

Guy	State	TWA / 8h	ppm	STEL / 15min	mg / m3	ppm	Note / Remarks
OEL	EU		0.005				

Legend:

(C) = CEILING; INALAB = Inhalable Fraction; RESPIR = Breathing Fraction; TORAC = Thoracic Fraction.

VND = hazard identified but no DNEL / PNEC available; NEA = no exposure expected; NPI = no hazard identified.

8.2. Exposure controls

Considering that the use of adequate technical measures should always take priority over personal protective equipment, ensure good ventilation in the workplace through effective local exhaust.

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 6/15 Replaces revision: 1 (Revision date: 05/09/2019)

For the choice of personal protective equipment, if necessary, seek advice from your chemical suppliers. Individual protection devices must bear the CE marking which certifies their compliance with current regulations.

Provide an emergency shower with face and eye basin.

HAND PROTECTION

Protect hands with category III work gloves (ref. Standard EN 374).

For the final choice of the material of the work gloves it is necessary to consider: compatibility, degradation, breakage time and permeation.

In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is not foreseeable. Gloves have a wear time that depends on the duration and method of use.

SKIN PROTECTION

Wear category II work clothes with long sleeves and safety footwear for professional use (ref. Regulation 2016/425 and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

EYE PROTECTION

It is recommended to wear airtight protective goggles (ref. Standard EN 166).

RESPIRATORY PROTECTION

In case of exceeding the threshold value (e.g. TLV-TWA) of the substance or of one or more of the substances present in the product, it is advisable to wear a mask with a type A filter whose class (1, 2 or 3) must be chosen in relation to the limit concentration of use. (ref. standard EN 14387). If there are gases or vapors of a different nature and / or gases or vapors with particles (aerosols, fumes, mists, etc.), combined filters must be provided. The use of respiratory protection means is necessary if the technical measures adopted are not sufficient to limit the exposure of the worker to the threshold values taken into consideration. The protection offered by the masks is however limited.

In the event that the substance in question is odorless or its olfactory threshold is higher than the relative TLV-TWA and in the event of an emergency, wear an open-circuit compressed air breathing apparatus (ref. Standard EN 137) or a self-contained breathing apparatus. outdoor air (ref. EN 138 standard). For the correct choice of the respiratory protection device, refer to the EN 529 standard.

ENVIRONMENTAL RELEASE CHECKS

Emissions from manufacturing processes, including those from ventilation equipment should be controlled for compliance with environmental protection legislation.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid	Concentration: 100%
		Temperature: 23 ° C
Color	colorless	
Smell	mild	Temperature: 23 ° C
Odor threshold	Unavailable	
pH	Unavailable	
Melting or freezing point Initial	Unavailable	
boiling point	136 ° C	
Boiling range Flash	Unavailable	
point Evaporation rate	169 ° C	
	Unavailable	
Flammability of solids and	Unavailable	
gases Lower flammability limit	Unavailable	
Upper flammability limit	Unavailable	
Lower explosive limit Upper	Unavailable	
explosive limit Vapor pressure	Unavailable	
	<0.0001 hPa	Method: OECD 104

Concentration: 100%

Substance: Hexamethylene diisocyanate, oligomers,
biuret

Temperature: 20 ° C

Vapor density Unavailable

Relative density 1.1301 g / cm³

Solubility immiscible

Note: reacts by releasing CO2

Concentration: 100%

Temperature: 15 ° C

Partition coefficient: n-octanol / water Unavailable

Note: not determinable, hydrolyzes

Concentration: 100%

Auto-ignition temperature 449 ° C

Decomposition temperature Unavailable

Viscosity 2500 mPas

Concentration: 100%

Temperature: 23 ° C

Explosive properties Unavailable

Oxidizing properties Unavailable

9.2. Other information

Total solids (250 ° C / 482 ° F) 0.30%

SECTION 10. Stability and reactivity**10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

In normal conditions of use and storage no dangerous reactions are foreseeable.

It develops heat in contact with: alcohols, amines.

It can develop: carbon dioxide.

10.4. Conditions to avoid

None in particular. However, follow the usual precautions against chemicals.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 8/15 Replaces revision: 1 (Revision date: 05/09/2019)

Information not available

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Particular characteristics / effects: In the event of overexposure - particularly when spraying with paints containing isocyanate without protective equipment - there is a danger, depending on the concentration, of irritation of the eyes, nose, throat and respiratory tract. Possible delayed appearance of disorders and development of a form of hypersensitivity (respiratory disorders, cough, asthma). Hypersensitive people may experience these effects even at low concentrations of isocyanate, including concentrations below the occupational exposure limit. In case of prolonged contact with the skin, irritating and dehydrating effects are possible.

In animal experiments and other evidence, it was found that skin contact with diisocyanates could play a role in isocyanate sensitization and respiratory tract reactions.

Metabolism, kinetics, mechanism of action and other information the

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects and chronic effects from short and long term exposure

NOAEL: 3.4 mg / m³ air

LOAEL: 21 mg / m³

Method of Application: inhalation (dusts / mists / fumes)

Species: Rat

Dosage levels: 0.3 - 4 - 25 mg / m³

Duration of exposure: 90 d

Treatment frequency: (6 hours per day, 5 days per week) Test

substance: (as aerosol)

Method: OECD TG 413

No indications were found that would suggest damage to other organs other than those of respiration. NOAEL:

3.7 mg / m³ air

LOAEL: 17.5 mg / m³

Method of Application: inhalation (dusts / mists /

fumes) Species: Rat, male / female

Dosage levels: 3 - 15 - 75 mg / m³

Duration of exposure: 21 d

Treatment frequency: (6 hours per day, 5 days per week) Test

substance: (as aerosol)

Method: OECD TG 412

No indications were found that would suggest damage to other organs other than those of respiration.

Interactive effects the

Information not available

ACUTE TOXICITY

Hexamethylene diisocyanate, oligomers, biuret

LD50 (Oral) > 5000 mg / kg Rat, OECD 401

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 9/15 Replaces revision: 1 (Revision date: 05/09/2019)

LD50 (Dermal)> 2000 mg / kg Rabbit, Rat OECD 402

LC50 (Inhalation) 0.402 mg / l / 4h Rat

Acute toxicity, by inhalation

The test atmosphere generated in the animal study is not representative of work environments, how the substance is placed on the market and how it is reasonable to expect it to be used. As a result of this, the test results cannot be directly applied to the objective of assessing the risks. Based on expert assessment and weight of evidence, a modified classification for acute inhalation toxicity is warranted.

Conversion into point estimate of acute toxicity 1,5 mg / l

Test atmosphere: dust / mist

Method: Expert judgment

Assessment: Harmful if inhaled.

SKIN CORROSION / SKIN IRRITATION

It does not meet the classification criteria for this hazard class

Species: Rabbit

Result: slightly irritating Classification: No skin irritation Method: OECD Test Guideline 404

SERIOUS EYE DAMAGE / EYE IRRITATION

It does not meet the classification criteria for this hazard class

Species: Rabbit

Result: slightly irritating Classification: No eye irritation Method: OECD Test Guideline 405

RESPIRATORY OR SKIN SENSITIZATION

Skin sensitizer

Respiratory sensitization

Species: Guinea pig

Classification: No classification under EC Directives 2006/121 / EC or 1999/45 / EC as a respiratory sensitizer. No pulmonary sensitization in animal testing.

No pulmonary sensitization potential was established in guinea pigs either after intradermal induction or after inhalation of hexamethylene diisocyanate-based polyisocyanate.

Skin sensitization

Skin sensitization (LLNA (Local Lymph Node Assay)): Species:

Mouse

Result: positive

Classification: May cause sensitization by skin contact. Method: OECD TG 429

MUTAGENICITY ON GERMINAL CELLS

It does not meet the classification criteria for this hazard class

Genotoxicity in vitro

Test type: Salmonella / microsome test (Ames-test)

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 10/15 Replaces revision: 1 (Revision date: 05/09/2019)

Metabolic activation: with / without
Result: No indications suggesting a mutagenic effect. Method: OECD TG 471

Toxicological tests on the product
Test type: In vitro chromosomal aberration Test system:
Chinese hamster ovary (CHO) cells Metabolic activation:
with / without
Result: negative

Method: OECD TG 473
Test type: In vitro mammalian cell gene mutation test Test system:
Chinese Hamster Ovary (CHO) cells
Metabolic activation: with / without
Result: negative
Method: OECD TG 476

CARCINOGENICITY

It does not meet the classification criteria for this hazard class

REPRODUCTION TOXICITY

It does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility
Available data show no evidence of reproductive toxicity.

Harmful effects on the development of offspring
Animal studies of structurally similar compounds did not reveal specific reproductive toxicities.

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE

It can irritate the respiratory tract

Route of Exposure: Inhalation
Target Organs: Respiratory Tract
May irritate the respiratory tract.

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE

It does not meet the classification criteria for this hazard class

DANGER IN CASE OF SUCTION

It does not meet the classification criteria for this hazard class

Acute effects: Harmful if inhaled.
Sensitization: May cause sensitization by skin contact.

SECTION 12. Ecological information

Use according to good working practices, avoiding to disperse the product in the environment. Notify the competent authorities if the product has reached water courses or if it has contaminated the soil or vegetation.

12.1. Toxicity

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 11/15 Replaces revision: 1 (Revision date: 05/09/2019)

Acute bacterial toxicity
Hexamethylene diisocyanate, product of oligomerization (biuret type)
EC50 645.7 mg / l
Species: activated sludge
Duration of exposure: 3 h
Method: OECD TG 209 EC50
645.7 mg / l
Test Type: Breathing Inhibitor
Species: Activated Sludge
Duration of exposure: 3 h
Method: OECD TG 209

Hexamethylene diisocyanate, oligomers, biuret

LC50 - Fish > 100 mg / l / 96h Danio rerio, Directive 67/548 / EEC, Annex V, C.1.
EC50 - Crustaceans > 100 mg / l / 48h Daphnia magna, Directive 67/548 / EEC, Annex V, C.2.
EC50 - Algae / Aquatic Plants > 100 mg / l / 72h Desmodesmus subspicatus, OECD TG 201

12.2. Persistence and degradability

Biodegradation: 1%, 28 d, i.e. not easily degradable Method:
OECD TG 301 D
Stability in the water
Hexamethylene diisocyanate, product of oligomerization (biuret type)
The substance hydrolyzes rapidly in water.
Studies on a similar product.

Hexamethylene diisocyanate, oligomers,
biuret NOT rapidly degradable

12.3. Bioaccumulation potential

Hexamethylene diisocyanate, oligomers, biuret
Partition coefficient: n-octanol / water BCF 0 not determinable, hydrolyzes
9,6 Accumulation in aquatic organisms is not expected.

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

This substance / mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher.
Based on the available data, the product does not contain PBT or vPvB substances in percentage \geq to 0.1%.

12.6. Other adverse effects

On the basis of data relating to ecotoxicological effects, the substance dissolved in water is to be classified as not critical for aquatic organisms. Since the compound is not easily biodegradable, it must be expected that the product remains longer in water. This is valid only if no other elimination mechanisms are involved (photodegradation, hydrolysis, adsorption). In the absence of ecotoxic effects, no damage to the ecosystem is to be expected.

The resin reacts with water at the contact surface with the development of CO₂ forming a solid, insoluble and high melting reaction product (polyurea). This reaction is strongly favored by surface-active substances (eg liquid soaps) and by water-soluble solvents. According to the experiences acquired so far, polyurea is inert and non-degradable.

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 12/15 Replaces revision: 1 (Revision date: 05/09/2019)

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse if possible. Product residues are to be considered special hazardous waste. The dangerousness of the waste that partially contains this product must be assessed on the basis of the laws in force.

Disposal must be entrusted to an authorized waste management company, in compliance with national and possibly local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be sent for recovery or disposal in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not to be considered dangerous pursuant to the provisions in force on the transport of dangerous goods by road (ADR), by rail (RID), by sea (IMDG Code) and by air (IATA).

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard classes

Not applicable

14.4. Packing group

Not applicable

14.5. Dangers for the environment

Not applicable

14.6. Special precautions for users

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 13/15 Replaces revision: 1 (Revision date: 05/09/2019)

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not relevant information

SECTION 15. Regulatory information

15.1. Laws and regulations on s specific health, safety and environment for parking nza or mixture

Seveso Category - Directive 2012/18 / EC: None

Restrictions relating to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006

Product

Point 3

Contained substances

Point 74 DIISOCYANATES

Substances in Candidate List (Art. 59 REACH)

Based on available data, the product does not contain SVHC substances in percentage \geq to 0.1%.

Substances subject to authorization (Annex XIV REACH)

None

Substances subject to export notification obligation Reg. (EC) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Check Sanitar the

Workers exposed to this chemical agent dangerous to health must be subjected to health surveillance carried out in accordance with the provisions of art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the safety and health of the worker has been assessed as irrelevant, in accordance with the provisions of art. 224 paragraph 2.

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 14/15 Replaces revision: 1 (Revision date: 05/09/2019)

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the substance.

SECTION 16. Other information

Text of hazard (H) indications mentioned in sections 2-3 of the sheet:

Acute Tox. 4	Acute toxicity, category 4
STOT SE 3	Specific target organ toxicity - single exposure, category 3 Skin
Skin Sens. 1	sensitization, category 1
H332	Harmful if inhaled.
H335	It can irritate the respiratory tract.
H317	May cause an allergic skin reaction.

LEGEND:

- ADR: European agreement for the transport of dangerous goods by road
- CAS NUMBER: Number of the Chemical Abstract Service
- EC50: Concentration affecting 50% of the population under test
- CE NUMBER: Identification number in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived no effect level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System for Classification and Labeling of Chemicals
- IATA DGR: Regulations for the transport of dangerous goods of the International Air Transport Association
- IC50: Concentration of immobilization of 50% of the population subject to testing
- IMDG: International maritime code for the transport of dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identification number in Annex VI of the CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- OEL: Occupational exposure level
- PBT: Persistent, bioaccumulating and toxic according to REACH
- PEC: Predicted environmental concentration
- PEL: Predictable level of exposure
- PNEC: Predicted No Effect Concentration
- REACH: EC Regulation 1907/2006
- RID: Regulations for the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration which must not be exceeded during any moment of work exposure.
- TWA STEL: Short term exposure limit
- TWA: Weighted average exposure limit
- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulating according to REACH
- WGK: Water hazard class (Germany).

GENERAL BIBLIOGRAPHY:

1. Regulation (EC) 1907/2006 of the European Parliament (REACH)
2. Regulation (EC) 1272/2008 of the European Parliament (CLP)
3. Regulation (EU) 790/2009 of the European Parliament (I Atp. CLP)
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
6. Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
7. Regulation (EU) 487/2013 of the European Parliament (IV Atp. CLP)
8. Regulation (EU) 944/2013 of the European Parliament (V Atp. CLP)
9. Regulation (EU) 605/2014 of the European Parliament (VI Atp. CLP)

	ROYAL SRL	Revision n. 2
	RY STAR FIX B	Revision date 05/02/2021 Printed 02/05/2021 Page no. 15/15 Replaces revision: 1 (Revision date: 05/09/2019)

- 10. Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
- 11. Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
- 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
- 13. Regulation (EU) 2017/776 (X Atp. CLP)
- 14. Regulation (EU) 2018/669 (XI Atp. CLP)
- 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
- 16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- NI Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA Agency website
- Database of SDS models of chemical substances - Ministry of Health and National Institute of Health

Note for the user:

The information contained in this sheet is based on the knowledge available to us at the date of the last version. The user must ensure the suitability and completeness of the information in relation to the specific use of the product.

This document should not be construed as a guarantee of any specific property of the product.

Since the use of the product does not fall under our direct control, the user is obliged to observe the laws and regulations in force regarding hygiene and safety under his own responsibility. No responsibility is assumed for improper use.

Provide adequate training for personnel assigned to use chemical products.

METHODS OF CALCULATING THE CLASSIFICATION

Physico-chemical hazards: The classification of the product was derived from the criteria established by the CLP Regulation Annex I Part 2. The methods for assessing the physico-chemical properties are reported in section 9.

Health hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 3, unless otherwise indicated in section 11.

Environmental hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 4, unless otherwise indicated in section 12.

