

Safety data sheet

according to 1907/2006/EC, Article 31 (REACH)

Printing date 01.08.2018

Revision: 30.10.2017

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

- **1.1 Product identifier**
- **Trade name:** n-Hexane, GC-MS
- **Article number:** HE0248
- **CAS Number:**
110-54-3
- **EC number:**
203-777-6
- **Index number:**
601-037-00-0
- **Registration number** 01-2119480412-44-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:**
Organic solvent
Laboratory reagent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Scharlab, S.L.
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa
08181 Sentmenat (Barcelona) SPAIN
Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65
email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com
- **Regional representation:**
Scharlab, S.L.
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email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com
- **Further information obtainable from:** technical department
- **1.4 Emergency telephone number:**
Please contact the regional Scharlab distributor/dealer in your country
During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361f Suspected of damaging fertility (causing atrophy of the testes).
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
 Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

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GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2

H315 Causes skin irritation.

STOT SE 3

H336 May cause drowsiness or dizziness.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS08



GHS09

Signal word Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361f Suspected of damaging fertility (causing atrophy of the testes).

H336 May cause drowsiness or dizziness.

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

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P321 Specific treatment (see on this label).

P331 Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P362+P364 Take off contaminated clothing and wash it before reuse.

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

3.1 Chemical characterisation: Substances

CAS No. Description

110-54-3 n-hexane

Identification number(s)

EC number: 203-777-6

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· **Index number:** 601-037-00-0**SECTION 4: First aid measures**· **4.1 Description of first aid measures**· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

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.· **After swallowing:** If symptoms persist consult doctor.· **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.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet· **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

· **5.3 Advice for firefighters**· **Protective equipment:** No special measures required.**SECTION 6: Accidental release measures**· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

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:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **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.

SECTION 7: Handling and storage· **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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.
- **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:**



Tightly sealed goggles

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Petrol-like
Odour threshold:	Not determined.
pH-value:	Not determined.

Change in condition

Melting point/freezing point:	-95 °C
Initial boiling point and boiling range:	69 °C

Flash point:	-22 °C
Flammability (solid, gas):	Not applicable.
Ignition temperature:	240 °C
Decomposition temperature:	Not determined.
Auto-ignition temperature:	Not determined.

Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:

Lower:	1.2 Vol %
Upper:	7.4 Vol %

Vapour pressure at 20 °C:	160 hPa
Density at 20 °C:	0.66 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with water at 20 °C: 0.1 g/l

Partition coefficient: n-octanol/water: Not determined.

Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

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 No dangerous reactions known.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

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- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, 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**
Suspected of damaging fertility (causing atrophy of the testes).
- **STOT-single exposure**
May cause drowsiness or dizziness.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for 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.

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

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA · 14.2 UN proper shipping name · ADR · IMDG · IATA · 14.3 Transport hazard class(es) · ADR, IMDG 	<p>UN1208</p> <p>1208 HEXANES, ENVIRONMENTALLY HAZARDOUS HEXANES, MARINE POLLUTANT HEXANES</p>
<div style="display: flex; align-items: center; gap: 10px;">   </div> <ul style="list-style-type: none"> · Class · Label 	<p>3 Flammable liquids. 3</p>
<ul style="list-style-type: none"> · IATA <div style="display: flex; align-items: center; gap: 10px; margin-top: 10px;">  </div> <ul style="list-style-type: none"> · Class · Label · 14.4 Packing group · ADR, IMDG, IATA · 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR): · 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code · Transport/Additional information: 	<p>3 Flammable liquids. 3</p> <p>II Environmentally hazardous substance, liquid; Marine Pollutant Yes (P) Symbol (fish and tree) Symbol (fish and tree) Warning: Flammable liquids. 33 F-E,S-D E Not applicable.</p>
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Transport category · Tunnel restriction code · UN "Model Regulation": 	<p>1L 2 D/E UN 1208 HEXANES, 3, II, ENVIRONMENTALLY HAZARDOUS</p>

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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** Substance is not listed.
- **Seveso category**
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has 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.

- **Classification according to Regulation (EC) No 1272/2008**
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
- **Department issuing SDS:** product safety department
- **Contact:** msds@scharlab.com
- **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport 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
P: Marine Pollutant
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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Annex: Exposure scenario 1

- **1 - Short title of the exposure scenario** Industrial use
- **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **2 - Conditions of use**
- **Duration and frequency**
8hrs (full working shift).
5 workdays/week.
Emission days (days/year): 20
- **Environment**
Estimated substance removal from wastewater via domestic sewage treatment (%): 96
Maximum allowable site tonnage based on release following total wastewater treatment removal (kg/day): 2400
Wastewater is to be treated by a municipal STP. Municipal STP discharge rate <2E3 m3/d.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity**
2 tons per year
100 kg per day
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**
Fraction released to air from process (initial release previous to MGR): 0.025
Fraction released to residual water from process (initial release previous to MGR): 0.02
Fraction released to ground from process (initial release previous to MGR): 0.0001
Use only on hard ground.
- **Other operational conditions affecting worker exposure**
Avoid contact with the skin.
Take precautionary measures against static discharge.
Keep away from sources of ignition - No smoking.
Assumes use at not more than 20 °C above ambient temperature, unless stated differently.
Do not taste or swallow.
Do not ingest.
Do not induce vomiting
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
It is recommended to follow the current ATEX directive to explosive atmospheres
Ensure good ventilation. This can be achieved by using a local exhaust or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
Handle in a fume cupboard or under extract ventilation
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
- **Technical protective measures**
Provide explosion-proof electrical equipment.
Ensure that suitable extractors are available on processing machines
Use product only in enclosed systems.

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- Ensure good ventilation/exhaustion at the workplace.
Use only in well ventilated areas.
Restrict line velocity during pumping to avoid generation of electrostatic discharge.
- **Personal protective measures**
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Change contaminated clothing immediately.
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Wear suitable protective gloves and protective goggles /face protection during work.
 - **Measures for consumer protection** Ensure adequate labelling.
 - **Environmental protection measures**
 - **Air** No special measures required.
 - **Water**
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.
Do not allow to reach sewage system.
 - **Soil** Prevent contamination of soil.
 - **Disposal measures**
Disposal must be made according to official regulations.
Ensure that waste is collected and contained.
 - **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 - **Waste type** Partially emptied and uncleaned packaging
 - **3 - Exposure estimation**
 - **Worker (oral)**
The exposure estimation was carried out in accordance with ECETOC TRA.
The calculated value is smaller than the DNEL.
Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.
 - **Worker (dermal)**
The exposure estimation was carried out in accordance with ECETOC TRA.
The calculated value is smaller than the DNEL.
Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.
 - **Worker (inhalation)**
The exposure estimation was carried out in accordance with ECETOC TRA.
The calculated value is smaller than the DNEL.
Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.
 - **Environment**
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
 - **4 - Guidance for downstream users**
Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.
Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.
For the risk assessment, the tools recommended by ECHA can be used.

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Annex: Exposure scenario 2

- **1 - Short title of the exposure scenario** Laboratory use
- **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **2 - Conditions of use**
- **Duration and frequency**
8hrs (full working shift).
5 workdays/week.
Emission days (days/year): 365
- **Environment**
Estimated substance removal from wastewater via domestic sewage treatment (%): 96
Maximum allowable site tonnage based on release following total wastewater treatment removal (kg/day): 370
Wastewater is to be treated by a municipal STP. Municipal STP discharge rate <2E3 m3/d.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity**
0.0028 tons per year
0.0075 kg per day
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**
Fraction released to air from process (initial release previous to MGR): 0.5
Fraction released to residual water from process (initial release previous to MGR): 0.5
Fraction released to ground from process (initial release previous to MGR): 0
Use only on hard ground.
- **Other operational conditions affecting worker exposure**
Avoid contact with the skin.
Take precautionary measures against static discharge.
Keep away from sources of ignition - No smoking.
Assumes use at not more than 20 °C above ambient temperature, unless stated differently.
Do not taste or swallow.
Do not ingest.
Do not induce vomiting
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
It is recommended to follow the current ATEX directive to explosive atmospheres
Ensure good ventilation. This can be achieved by using a local exhaust or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
Handle in a fume cupboard or under extract ventilation
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
- **Technical protective measures**
Provide explosion-proof electrical equipment.
Ensure that suitable extractors are available on processing machines
Use product only in enclosed systems.

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Ensure good ventilation/exhaustion at the workplace.

Use only in well ventilated areas.

Restrict line velocity during pumping to avoid generation of electrostatic discharge.

• Personal protective measures

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Change contaminated clothing immediately.

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Wear suitable protective gloves and protective goggles /face protection during work.

• Measures for consumer protection Ensure adequate labelling.**• Environmental protection measures****• Air** No special measures required.**• Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

Do not allow to reach sewage system.

• Soil Prevent contamination of soil.**• Disposal measures**

Disposal must be made according to official regulations.

Ensure that waste is collected and contained.

• Disposal procedures

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

• Waste type Partially emptied and uncleaned packaging**• 3 - Exposure estimation****• Worker (oral)**

The exposure estimation was carried out in accordance with ECETOC TRA.

The calculated value is smaller than the DNEL.

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.

• Worker (dermal)

The exposure estimation was carried out in accordance with ECETOC TRA.

The calculated value is smaller than the DNEL.

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.

• Worker (inhalation)

The exposure estimation was carried out in accordance with ECETOC TRA.

The calculated value is smaller than the DNEL.

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.

• Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

• 4 - Guidance for downstream users

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.

For the risk assessment, the tools recommended by ECHA can be used.