

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.06.2021

Version number 1.0

Revision: 02.06.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** Trifluoroacetic acid, peptide synthesis grade**Article number:** AC3142**CAS Number:**

76-05-1

EC number:

200-929-3

Index number:

607-091-00-1

Registration number 01-2119548396-29-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: 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

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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**

GHS06 skull and crossbones

Acute Tox. 3

H301 Toxic if swallowed.



GHS05 corrosion

Skin Corr. 1A

H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4

H332 Harmful if inhaled.

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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 substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05 GHS06

- **Signal word** Danger
- **Hazard statements**
H301 Toxic if swallowed.
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H412 Harmful 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).
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
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**
76-05-1 trifluoroacetic acid
- **Identification number(s)**
- **EC number:** 200-929-3
- **Index number:** 607-091-00-1

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.
- **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.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** 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**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

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:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
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).
Use neutralising agent.
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**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **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.
- **7.3 Specific end use(s)** No further relevant information available.

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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:** 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 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

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Fluid
- **Colour:** Colourless
- **Odour:** Acrid
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
- **Melting point/freezing point:** -15 °C
- **Initial boiling point and boiling range:** 73 °C

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- **Flash point:** Not applicable.
- **Flammability (solid, gas):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapour pressure at 20 °C:** 11 hPa
- **Density at 20 °C:** 1.535 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Fully miscible.
- **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.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
 - Toxic if swallowed.
 - Harmful if inhaled.
- **LD/LC50 values relevant for classification:**

 - Oral LD50 200 mg/kg (rat)
- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes severe skin burns and eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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- **Additional toxicological information:**
- **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** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to 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.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even 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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
 - **ADR, IMDG, IATA**
 - **14.2 UN proper shipping name**
 - **ADR**
 - **IMDG, IATA**
- UN2699
2699 TRIFLUOROACETIC ACID
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14.3 Transport hazard class(es)
ADR, IMDG, IATA


Class	8 Corrosive substances.
Label	8
14.4 Packing group	
ADR, IMDG, IATA	I
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Warning: Corrosive substances.
Hazard identification number (Kemler code):	88
EMS Number:	8-05
Segregation groups	Acids
Stowage Category	B
Stowage Code	SW1 Protected from sources of heat. SW2 Clear of living quarters.
Handling Code	H2 Keep as cool as reasonably practicable
Segregation Code	SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	0
Transport category	1
Tunnel restriction code	E
UN "Model Regulation":	UN 2699 TRIFLUOROACETIC ACID, 8, I

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 -**
- REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- 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

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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 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

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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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**
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- **Environmental release category** ERC2 Formulation into mixture
- **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).
Frequency of use \leq 240 days/year
- **Environment**
Local daily emission to waste water: 10 kg/day
Flow rate: 18.000 m³/d
Local dissolution factor in fresh water:
Local dissolution factor in seawater:
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture**
It covers a percentage of substance in the product up to 100 %
Raw material.
- **Other operational conditions**
- **Other operational conditions affecting worker exposure**
Avoid contact with eyes.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
- **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
Ensure good ventilation. This can be achieved by using a local exhaustion 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.
Keep good industrial hygiene.
Handle in a fume cupboard or under extract ventilation
- **Technical protective measures**
Indoor use
Ensure good ventilation/exhaustion at the workplace.
Clean tools immediately after use.
Minimization of manual phases.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
- **Personal protective measures**
Tightly sealed goggles
Use protective suit.
Wear suitable gloves (tested to EN374)
Face protection
Take care of good cleanliness and tidiness.
Avoid close or long term contact with the skin.
- **Measures for consumer protection** Ensure adequate labelling.

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• Environmental protection measures**• Air** No special measures required.**• Water**

The product should not be released into water without pretreatment. An on-site wastewater treatment is recommended.

Spent process fluid discharged to wastewater.

Size of sewage treatment plant (m³/d): 2000

• Soil No special measures required.**• Disposal measures**

Disposal must be made according to official regulations.

Ensure that waste is collected and contained.

Percentage removed from wastewater: 0.3 %

• Disposal procedures Chemical treatment of contaminated water.**• Waste type** Partially emptied and uncleaned packaging**• 3 - Exposure estimation****• Worker (inhalation)**

PROC 3: 0.19 mg/m³, RCR 0.07

PROC 9: 0.55 mg/m³, RCR 0.21

• Environment

ERC 2 (PEC): STP 4.99 mg/L, RCR 0.06 Industrial use

ERC2 (PEC): Fresh water 0.5 mg/L, RCR 0.05

ERC2 (PEC): Freshwater sediment 2.1 mg/kg (dw), RCR 0.5

ERC2 (Regional PEC): Sea water 0.650 g/L, RCR < 0.01

ERC 2 (Regional PEC): Fresh water sediment 0.002 mg/kg (dw), RCR < 0.01

• 4 - Guidance for downstream users

Environment:

If a DU has OC/RMMs outside specifications in the ES, then the DU can evaluate whether he works inside the boundaries set by the ES through scaling in EUSES.

The main driving parameters are:

- Local amount used (tonnage)
- Release factor prior to on-site treatment
- On-site wastewater treatment presence and efficiency
- Dillution factor

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment and Health: Used the model ECETOC TRA. If other measures for risk management / operating conditions are adopted, then users should ensure that these risks are at least at equivalent levels.

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Annex: Exposure scenario 2

- **1 - Short title of the exposure scenario** Laboratory use
- **Sector of Use**
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU24 Scientific research and development
- **Process category**
 - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
 - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 - PROC4 Chemical production where opportunity for exposure arises
 - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 - PROC10 Roller application or brushing
 - PROC15 Use as laboratory reagent
- **Environmental release category**
 - ERC8b Widespread use of 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**
 - 4 hrs (half working shift).
 - 8hrs (full working shift).
 - Frequency of use \leq 240 days/year
- **Environment**
 - Local daily emission to waste water: 0.001 kg/day
 - Flow rate: 18.000 m3/d
 - Local dissolution factor in fresh water:
 - Local dissolution factor in seawater:
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture**
 - Raw material.
 - It covers a percentage of substance in the product up to 100 %
- **Other operational conditions**
- **Other operational conditions affecting worker exposure**
 - Avoid contact with eyes.
 - Avoid contact with the skin.
 - Do not breathe gas/vapour/aerosol.
- **Other operational conditions affecting consumer exposure during the use of the product**
 - Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
 - Keep good industrial hygiene.
 - Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
 - 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.
- **Technical protective measures**
 - Ensure good ventilation/exhaustion at the workplace.

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Clean tools immediately after use.

Indoor use

Use product only in enclosed systems.

Minimization of manual phases.

Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Avoid splashing.

- **Personal protective measures**

Tightly sealed goggles

Use protective suit.

Wear suitable gloves (tested to EN374)

Face protection

Take care of good cleanliness and tidiness.

Avoid close or long term contact with the skin.

- **Measures for consumer protection** Ensure adequate labelling.

- **Environmental protection measures**

- **Air** No special measures required.

- **Water**

The product should not be released into water without pretreatment. An on-site wastewater treatment is recommended. The typical site treatment technology of wastewater achieves removal efficiency (%): (0.3)

- **Soil** No special measures required.

- **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 (inhalation)**

PROC 1: 0.086 mg/m³, RCR 0.03

PROC 2: 0.16 mg/m³, RCR 0.06

PROC 3: 0.16 mg/m³, RCR 0.06

PROC 4: 0.52 mg/m³, RCR 0.19

PROC 8a: 0.15 mg/m³, RCR 0.06

PROC 8b: 0.15 mg/m³, RCR 0.06

PROC 9: 0.15 mg/m³, RCR 0.06

PROC 10: 0.33 mg/m³, RCR 0.12

PROC 15: 0.15 mg/m³, RCR 0.06

- **Environment**

ERC 8b (PEC): STP 0.55 g/L, RCR < 0.01 Industrial use

ERC8b (PEC): Fresh water 0.70 mg/L, RCR < 0.01

ERC8b (PEC): Freshwater sediment 0.003 mg/kg (dw), RCR < 0.01

ERC8b (Regional PEC): Sea water 0.002 mg/L (dw), RCR < 0.01

ERC 8b (Regional PEC): Fresh water sediment 0.650 g/L, RCR < 0.01

- **Consumer** Not relevant for this Exposure Scenario.

- **4 - Guidance for downstream users**

Environment:

If a DU has OC/RMMs outside specifications in the ES, then the DU can evaluate whether he works inside the boundaries set by the ES through scaling in EUSES.

The main driving parameters are:

- Local amount used (tonnage)
- Release factor prior to on-site treatment
- On-site wastewater treatment presence and efficiency
- Dilution factor

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Where other Risk Management Measures/Operational Conditions are adopted, then users should

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ensure that risks are managed to at least equivalent levels.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment and Health: Used the model ECETOC TRA. If other measures for risk management / operating conditions are adopted, then users should ensure that these risks are at least at equivalent levels.