

# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by  
Regulation(EU) No. 2020/878

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

### 1.1 Product identifier

Product name: RTV560/DBT

Chemical name	Dibutyltin dilaurate
INDEX No.	Not applicable
CAS-No.	77-58-7
EC No.	201-039-8
REACH Registration No.	01-2119496068-27-XXXX

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

Identified uses: Catalyst Industrial

Uses advised against: Not known.

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Importer/Distributor Information** : Momentive Performance Materials GmbH  
Chempark Leverkusen Gebaeude V7  
DE - 51368 Leverkusen  
Germany

**Contact person** : commercial.services@momentive.com

**Telephone** : General information  
+390510924300 (Customer Service Centre)

### 1.4

**Emergency telephone number** : Europe, Israel & All other: +44 (0) 1235239670; Middle East:+44  
(0) 1235239671

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

**Classification according to Regulation (EC) No 1272/2008 as amended.**

#### Health Hazards

Skin corrosion	Category 1C	H314: Causes severe skin burns and eye damage.
Serious eye damage	Category 1	H318: Causes serious eye damage.
Skin sensitizer	Category 1	H317: May cause an allergic skin reaction.
Germ Cell Mutagenicity	Category 2	H341: Suspected of causing genetic defects.
Toxic to reproduction	Category 1B	H360FD: May damage fertility. May damage the unborn child.

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Specific Target Organ Toxicity - Single Exposure Category 1<sup>1</sup> H370: Causes damage to organs.  
**Target Organs**  
 1. thymus

**Environmental Hazards**

Acute hazards to the aquatic environment Category 1 H400: Very toxic to aquatic life.  
 Chronic hazards to the aquatic environment Category 4 H413: May cause long lasting harmful effects to aquatic life.

**2.2 Label Elements**

**Contains:** Dibutyltin Dilaurate



**Signal Words:** Danger

**Hazard Statement(s):** H314: Causes severe skin burns and eye damage.  
 H317: May cause an allergic skin reaction.  
 H341: Suspected of causing genetic defects.  
 H360FD: May damage fertility. May damage the unborn child.  
 H370: Causes damage to organs.  
 H410: Very toxic to aquatic life with long lasting effects.

**Precautionary Statements**

**Prevention:** P201: Obtain special instructions before use.  
 P202: Do not handle until all safety precautions have been read and understood.  
 P260: Do not breathe dust/fume/gas/mist/vapors/spray.  
 P264: Wash face, hands and any exposed skin thoroughly after handling.  
 P270: Do not eat, drink or smoke when using this product.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response:** P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P310: Immediately call a POISON CENTER or doctor/ physician.  
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 P333+P313: If skin irritation or rash occurs: Get medical advice/attention.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313: IF exposed or concerned: Get medical advice/attention.  
 P391: Collect spillage.

**Unknown toxicity - Health**

Acute toxicity, oral 0 %  
 Acute toxicity, dermal 0 %  
 Acute toxicity, inhalation, vapor 0 %

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Acute toxicity, inhalation, dust or mist 0 %

**Unknown toxicity - Environment**

Acute hazards to the aquatic environment 0 %

Chronic hazards to the aquatic environment 0 %

Acute hazards to the aquatic environment 0 %

Chronic hazards to the aquatic environment 0 %

**Additional Information:** No data available.

**2.3 Other hazards**

**PBT/vPvB data**

Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria, Not fulfilling vPvB (very persistent/very bioaccumulative) criteria

**Endocrine disrupting properties-Toxicity**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Endocrine disrupting properties-Ecotoxicity**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

**General information:** No data available.  
**Chemical name** Dibutyltin dilaurate  
**INDEX No.:** Not applicable  
**CAS-No.:** 77-58-7  
**EC No.:** 201-039-8  
**REACH Registration No.:** 01-2119496068-27-XXXX  
**M-Factor:** Not applicable

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
Dibutyltin Dilaurate	50 - <100%	77-58-7	201-039-8	01-2119496068-27-XXXX	Aquatic Toxicity (Acute): 1	#

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

# This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

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**SECTION 4: First aid measures**

**General:** Move into fresh air and keep at rest. Call a physician or poison control center immediately. Seek medical attention for all burns, regardless how minor they may seem. Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If b  
**CAUTION!** First aid personnel must be aware of own risk during rescue!

**4.1 Description of first aid measures**

**Inhalation:** Move to fresh air. If respiratory problems, artificial respiration/oxygen. Get medical attention.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Promptly wash eyes with plenty of water while lifting the eye lids. Obtain medical attention without delay, preferably from an ophthalmologist.

**Skin Contact:** Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Wash contaminated clothing before reuse. Call a physician or poison control center immediately.

**Ingestion:** If swallowed, do NOT induce vomiting. Give a glass of water. Call a physician or poison control center immediately.

**4.2 Most important symptoms and effects, both acute and delayed:** Gastrointestinal symptoms, including upset stomach. May cause burns of the gastrointestinal tract if swallowed. May cause chemical eye burns.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Hazards:** Corrosive to skin and eyes. May cause burns of the gastrointestinal tract if swallowed.

**Treatment:** Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes. Do not give victim anything to drink if he is unconscious. If swallowed, do NOT induce vomiting. Give a glass of water. Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water.

**SECTION 5: Firefighting measures**

**General Fire Hazards:** Do not use water jet as an extinguisher, as this will spread the fire. Use water spray to keep fire-exposed containers cool.

**5.1 Extinguishing media**  
**Suitable extinguishing media:**

Alcohol resistant foam. Carbon dioxide Dry chemical.

**Unsuitable extinguishing media:**

Avoid water in straight hose stream; will scatter and spread fire.

**5.2 Special hazards arising from the substance or mixture:**

In case of fire, carbon monoxide and carbon dioxide may be formed.

**5.3 Advice for firefighters**

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- Special fire-fighting procedures:** Take precautionary measures against static discharges. To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system.
- Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus and protective clothing.

**SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures:** Avoid contact with eyes, skin, and clothing. Avoid contact with liquid and vapors. Use personal protective equipment. Use only in well-ventilated areas.
- 6.2 Environmental Precautions:** Do not allow runoff to sewer, waterway or ground.
- 6.3 Methods and material for containment and cleaning up:** Absorb spillage with suitable absorbent material. Shovel up and place in a container for salvage or disposal.
- 6.4 Reference to other sections:** Remove sources of ignition. In case of spills, beware of slippery floors and surfaces. See Section 8 of the SDS for Personal Protective Equipment. Collect and dispose of spillage as indicated in section 13 of the SDS.

**SECTION 7: Handling and storage:**

- 7.1 Precautions for safe handling:** Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Wash hands after handling. Provide adequate ventilation. Avoid inhalation of dust and vapors.
- Storage conditions:** Keep container tightly closed. Keep away from sources of ignition - No smoking.
- 7.2 Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Keep away from sources of ignition - No smoking.
- Storage Stability:** Material is stable under normal conditions.
- 7.3 Specific end use(s):** No data available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control Parameters**  
**Occupational Exposure Limits**

Chemical name	Type	Exposure Limit Values	Source
Dibutyltin Dilaurate - as Sn	TWA	0,1 mg/m3	UK. EH40 Workplace Exposure Limits (WELs), as amended (12 2011)
	STEL	0,2 mg/m3	UK. EH40 Workplace Exposure Limits (WELs), as amended (01 2020)

**Biological Limit Values**  
 None.

**DNEL-Values**

Critical component	Type	Route of Exposure	Remarks
Dibutyltin Dilaurate	Workers	Dermal	1 mg/kg bw/day

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		Inhalation	0,07 mg/m <sup>3</sup>	
		Dermal	0,2 mg/kg bw/day	
		Inhalation	0,01 mg/m <sup>3</sup>	
	Consumers	Dermal	0,5 mg/kg bw/day	
		Inhalation	0,02 mg/m <sup>3</sup>	
		Ingestion	0,01 mg/kg bw/day	
		Dermal	0,08 mg/kg bw/day	
		Inhalation	0,003 mg/m <sup>3</sup>	
		Ingestion	0,002 mg/kg bw/day	

**PNEC-Values**

Critical component	Environmental compartment		Remarks
Dibutyltin Dilaurate	Water	0,463 µg/l	
	Seawater	0,0463 µg/l	
	Intermittent release	4,63 µg/l	
	freshwater sediment	0,05 mg/kg	Derived from PNEC(freshwater) using the equilibrium partitioning method.
	Saltwater Sediment	0,005 mg/kg	Derived from PNEC(freshwater) using the equilibrium partitioning method.
	soil	0,0407 mg/kg	
	Sewage treatment plant	100 mg/l	
	Oral	0,2 mg/kg	

**8.2 Exposure controls**

**Appropriate Engineering Controls:**

Provide eyewash station and safety shower. Use only with adequate ventilation.

**Individual protection measures, such as personal protective equipment**

**General information:**

Use only in well-ventilated areas. Do not eat, drink or smoke when using the product. Wash hands after handling. Practice good housekeeping.

**Eye/face protection:**

Face shield Safety glasses with side-shields conforming to EN166

**Skin protection**

**Hand Protection:**

Advice: Butyl rubber. Nitrile rubber. Polyvinyl chloride (PVC). Neoprene. This recommendation is valid only for our Product as delivered. If this product will be mixed with other substances you need to contact a supplier of CE approved protective gloves (e.g. KCL GmbH, D-36124 Eichenzell, Tel. 0049 (0) 6659 87300, Fax. 0049 (0) 6659 87155, email: vertrieb@kcl.de).

**Other:**

Safety shoes Wear suitable protective clothing, gloves and eye/face protection.

**Respiratory Protection:**

Respiratory protection mask with Filterttype ABEK Respirator with a vapour filter (EN 141)

**Hygiene measures:**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

**Environmental exposure controls:**

No release to wastewater from process as such, wastewater emissions limited to release generated from final equipment cleaning step using water

**SECTION 9: Physical and chemical properties**

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**9.1 Information on basic physical and chemical properties**

**Appearance**

<b>Physical state:</b>	liquid
<b>Form:</b>	liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Faint
<b>Odor Threshold:</b>	No data available.
<b>pH:</b>	Not applicable
<b>Freezing point:</b>	28,5 °C (other methods)
<b>Boiling Point:</b>	205 °C (1,013 hPa) (other methods)
<b>Flash Point:</b>	191 °C (other methods)
<b>Evaporation Rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Flammability Limit - Upper (%):</b>	No data available.
<b>Flammability Limit - Lower (%):</b>	No data available.
<b>Vapor pressure:</b>	0,0000077 hPa (25 °C)
<b>Relative vapor density:</b>	No data available.
<b>Density:</b>	1,043 g/cm <sup>3</sup> (28,5 °C)
<b>Relative density:</b>	No data available.
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	<= 1,43 mg/l (20 °C)
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water) Log Pow:</b>	4,44 ; pH 6,1 (OECD Test Guideline 107 )
<b>Autoignition Temperature:</b>	> 400 °C
<b>Decomposition Temperature:</b>	No data available.
<b>SADT:</b>	No data available.
<b>Viscosity, dynamic:</b>	No data available.
<b>Viscosity, kinematic:</b>	No data available.
<b>Explosive properties:</b>	Not classified
<b>Oxidizing properties:</b>	No data available.

**9.2 Other information**

No data available.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity:</b>	No data available.
<b>10.2 Chemical Stability:</b>	Material is stable under normal conditions.
<b>10.3 Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>10.4 Conditions to avoid:</b>	None known.
<b>10.5 Incompatible Materials:</b>	Strong oxides. Strong bases.
<b>10.6 Hazardous Decomposition Products:</b>	Carbon oxides Tin fumes.

**SECTION 11: Toxicological information**

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**Information on likely routes of exposure**

<b>Inhalation:</b>	No data available.
<b>Ingestion:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	No data available.

**11.1 Information on toxicological effects**

**Acute toxicity**

**Oral**

<b>Product:</b>	Not classified for acute toxicity based on available data.
<b>Specified substance(s)</b> Dibutyltin Dilaurate	LD 50 (Rat): 2.071 mg/kg

**Dermal**

<b>Product:</b>	Not classified for acute toxicity based on available data.
<b>Specified substance(s)</b> Dibutyltin Dilaurate	LD 50 (Rat): > 2.000 mg/kg

**Inhalation**

<b>Product:</b>	Not classified for acute toxicity based on available data.
<b>Specified substance(s)</b> Dibutyltin Dilaurate	No data available.

**Repeated dose toxicity**

<b>Product:</b>	No data available.
<b>Specified substance(s)</b> Dibutyltin Dilaurate	NOAEL (Rat(male and female), Oral, 28 d): 0,3 - 0,4 mg/l NOAEL (Rat(males), Oral, 28 d): 1,9 - 2,3 mg/l NOAEL (Rat(female), Oral, 28 d): 1,7 - 2,3 mg/l

**Skin Corrosion/Irritation:**

<b>Product:</b>	OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) (Rabbit): Corrosive
<b>Specified substance(s)</b> Dibutyltin Dilaurate	(Rabbit): Severe skin irritation.

**Serious Eye Damage/Eye Irritation:**

<b>Product:</b>	No data available.
<b>Specified substance(s)</b> Dibutyltin Dilaurate	OECD Test Guideline 405 (Rabbit, 21 d): Strongly irritating. Irritating to eyes.

**Respiratory or Skin Sensitization:**

<b>Product:</b>	No data available.
<b>Specified substance(s)</b> Dibutyltin Dilaurate	Maximisation Test, OECD Test Guideline 406 (Guinea Pig): Sensitizer

**Germ Cell Mutagenicity**



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**In vitro**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic)  
 Mammalian cytogenicity test (OECD 476): negative

**In vivo**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate (OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)) Oral (Mouse)positive The health hazard evaluation is based on the toxicological properties of a similar material.

**Carcinogenicity**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Reproductive toxicity**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Aspiration Hazard**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

**Product:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.;

**Components:**

Dibutyltin Dilaurate No data available.

**Other effects:** No data available.

**SECTION 12: Ecological information**

**12.1 Toxicity**

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**Acute toxicity**

**Fish**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate Fresh water ; EC50 (Daphnia magna, 48 h): < 0,463 mg/l (OECD Test Guideline 202)

**Chronic Toxicity**

**Fish**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate Fresh water ; EC50 (Desmodesmus subspicatus (green algae), 72 h): > 1 mg/l (OECD Test Guideline 201)

**12.2 Persistence and Degradability**

**Biodegradation**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate Biological degradability (39 d): 23 % The product is not readily biodegradable.

**BOD/COD Ratio**

**Product** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate No data available.

**12.3 Bioaccumulative potential**

**Product:** No data available.

**Specified substance(s)**

Dibutyltin Dilaurate The product is not bioaccumulating.

**12.4 Mobility in soil:**

No data available.

**Known or predicted distribution to environmental compartments**

Dibutyltin Dilaurate No data available.

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**12.5 Results of PBT and vPvB assessment:** Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria  
 Dibutyltin Dilaurate No data available.

**12.6 Endocrine disrupting properties:**

**Product:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Components:**  
 Dibutyltin Dilaurate No data available.

**12.7 Other adverse effects:**

**Other hazards**  
**Product:** No data available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**General information:** See Section 8 for information on appropriate personal protective equipment. The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground.

**Disposal methods:** Can be incinerated when in compliance with local regulations.

**SECTION 14: Transport information**

**ADR**

14.1 UN number or ID number: UN 1760  
 14.2 UN Proper Shipping Name: CORROSIVE LIQUID, N.O.S.(Dibutyltin Dilaurate)  
 14.3 Transport Hazard Class(es)  
     Class: 8  
     Label(s): 8  
     Hazard No. (ADR): 80  
     Tunnel restriction code: (E)  
 14.4 Packing Group: III  
 14.5 Environmental Hazards: Yes  
     Marine Pollutant Yes

**ADN**

14.1 UN number or ID number: UN 1760  
 14.2 UN Proper Shipping Name: CORROSIVE LIQUID, N.O.S.(Dibutyltin Dilaurate)  
 14.3 Transport Hazard Class(es)  
     Class: 8  
     Label(s): 8  
 14.4 Packing Group: III  
 14.5 Environmental Hazards: Yes  
     Marine Pollutant Yes

**RID**

14.1 UN number or ID number: UN 1760  
 14.2 UN Proper Shipping Name: CORROSIVE LIQUID, N.O.S.(Dibutyltin Dilaurate)

**RTV560/DBT**

- 14.3 Transport Hazard Class(es)  
 Class: 8  
 Label(s): 8  
 14.4 Packing Group: III  
 14.5 Environmental Hazards: Yes  
 Marine Pollutant: Yes

**IMDG**

- 14.1 UN number or ID number: UN 1760  
 14.2 UN Proper Shipping Name: CORROSIVE LIQUID, N.O.S.(Dibutyltin Dilaurate)  
 14.3 Transport Hazard Class(es)  
 Class: 8  
 Label(s): 8  
 EmS No.: F-A, S-B  
 14.4 Packing Group: III  
 14.5 Environmental Hazards: Yes  
 Marine Pollutant: Yes

**IATA**

- 14.1 UN number or ID number: UN 1760  
 14.2 Proper Shipping Name: Corrosive liquid, n.o.s.(Dibutyltin Dilaurate)  
 14.3 Transport Hazard Class(es):  
 Class: 8  
 Label(s): 8  
 14.4 Packing Group: III  
 14.5 Environmental Hazards: Yes  
 Marine Pollutant: Yes

**14.6 Special precautions for user:** This product is considered hazardous for transportation. Momentive Performance Materials ships this material under Limited Quantity or Consumer Commodity provisions of the transport regulations. Dangerous for the environment Keep away from food, foodstuff, acids and bases.

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

Not applicable

**SECTION 15: Regulatory information**

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

**EU Regulations**

**Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances:** none

**Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances:** none

**EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended:** none

**Regulation (EC) No. 649/2012 Import and export of dangerous chemicals:**

Chemical name	CAS-No.	Concentration
Dibutyltin Dilaurate	77-58-7	100%

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**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:**  
 none

**EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC):**  
 none

**Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:**

The packaging shall be visibly, legibly and indelibly marked as follows:  
 Restricted to professional users.

Chemical name	CAS-No.	Concentration
Dibutyltin Dilaurate	77-58-7	100%

**Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.:**

Chemical name	CAS-No.	Concentration
Dibutyltin Dilaurate	77-58-7	100%

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.:**

Chemical name	CAS-No.	Concentration
Dibutyltin Dilaurate	77-58-7	100%

**EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:**

Classification	Lower-tier Requirements	Upper-tier Requirements
E1. Hazardous to the aquatic environment	100 t	200 t
H3. STOT SE	50 t	200 t
E1. Hazardous to the aquatic environment	100 t	200 t
H3. STOT SE	50 t	200 t

**EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:**

Chemical name	CAS-No.	Concentration
Dibutyltin Dilaurate	77-58-7	100%

**Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:**

Chemical name	CAS-No.	Concentration
Dibutyltin Dilaurate	77-58-7	100%

**15.2 Chemical safety assessment:**

A Chemical Safety Assessment has been performed on this substance.

**Inventory Status**

Australia Industrial Chem. Act (AIC):	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	On or in compliance with the inventory	Remarks: None.
Canada NDSL Inventory:	Not in compliance with the inventory.	Remarks: None.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory	Remarks: None.

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Japan (ENCS) List:	On or in compliance with the inventory	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory	Remarks: None.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory	Remarks: None.
Philippines PICCS:	On or in compliance with the inventory	Remarks: None.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: None.
REACH:	If purchased from Momentive Performance Materials GmbH in Leverkusen, Germany, all substances in this product have been registered by Momentive Performance Materials GmbH or upstream in our supply chain or are exempt from registration under Regulation (EC) No 1907/2006 (REACH). For polymers, this includes the constituent monomers and other reactants.	Remarks: None.

**SECTION 16: Other information**

**Revision Information:** Not relevant.

**Key literature references and sources for data:** No data available.

**Wording of the H-statements in section 2 and 3**

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H341	Suspected of causing genetic defects.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

**Training information:** No data available.

**Issue Date:** 27.10.2022

**RTV560/DBT**

**Disclaimer:**

**Notice to reader**

Unless otherwise specified in section 1.2, Momentive Products are intended for industrial application only.

They are not intended for specific medical applications, neither for long-lasting (> 30 days) implantation into the human body, injected or directly ingested, nor for the manufacture of multiple usable contraceptives.

**Further Information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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**Annex to the extended Safety Data Sheet (eSDS)**

**Content**

- Exposure Scenario 1.** Manufacture of substance
- Exposure Scenario 2.** Formulation into mixture
- Exposure Scenario 3.** Industrial use, Process regulators (synthesis regulators) - Catalysts
- Exposure Scenario 4.** Additive premixing
- Exposure Scenario 5.** Manufacture of, Enamel
- Exposure Scenario 6.** Enameling and coating of electrical wire
- Exposure Scenario 7.** Professional use, Process regulators (synthesis regulators) - Catalysts
- Exposure Scenario 8.** Consumer use, Process regulators (synthesis regulators) - Catalysts

**Exposure Scenario 1.**

**Exposure scenario worker**

**1.Manufacture of substance**

**List of use descriptors**

<b>Sector(s) of use</b>	SU3: Industrial uses: Uses of substances as such or in
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**RTV560/DBT**

	preparations at industrial sites  SU8: Manufacture of bulk, large scale chemicals (including petroleum products)  SU9: Manufacture of fine chemicals
<b>Product categories [PC]:</b>	

<b>Name of contributing environmental scenario and corresponding ERC</b>	<u>Manufacture of substance:</u> ERC1: Manufacture of the substance
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<b>List of names of contributing worker scenarios and corresponding PROCs</b>	<u>Manufacture of substance:</u> PROC1: Use in closed process, no likelihood of exposure  PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises  PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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**2.1. Contributing exposure scenario controlling environmental exposure for: Manufacture of substance**

**Product characteristics**

<b>Physical state</b>	liquid
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<b>Viscosity:</b>	
<b>Kinematic viscosity:</b>	This information is not available.
<b>Dynamic viscosity:</b>	This information is not available.

**Amounts used**

<b>Annual amount per site</b>	33 tonnes/year Manufacture of the substance
<b>Fraction of EU tonnage used in region:</b>	1 Manufacture of the substance



**RTV560/DBT**

**Frequency and duration of use**

<b>Batch process:</b>	3 Emission days Manufacture of the substance
<b>Continuous process:</b>	330 Emission days, Hazardous waste incineration.

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	172.000,000 m <sup>3</sup> /d
<b>Local freshwater dilution factor</b>	1.000
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Intermittent release	3	5 %	0,01 %	6 %	Manufacture of the substance
Continuous release	330	0,01 %	-	0,01 %	Hazardous waste incineration.

**Other relevant operational conditions** not relevant

**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	Exhaust air scrubber.
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**Organisational measures to prevent/limit release from site:**

none

**RTV560/DBT**

**Conditions and measures related to sewage treatment plant**

**Size of municipal sewage system/treatment plant (m<sup>3</sup>/d):**

<b>type:</b>	industrial, municipal
<b>Discharge rate:</b>	1.000 m <sup>3</sup> /d
<b>Treatment effectiveness:</b>	99 %
<b>Sludge treatment technique:</b>	Incineration
<b>Measures to limit air emissions:</b>	not relevant
<b>Remarks:</b>	not relevant

**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Hazardous waste incineration.		

**Conditions and measures related to external recovery of waste**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**2.2. Contributing exposure scenario controlling worker exposure for: Manufacture of substance**

<b>Process Categories:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</p>
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 100 % (unless stated differently).
<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	25 °C

**RTV560/DBT**

<b>Remarks</b>	not relevant
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**Amounts used**

<b>Maximum daily site tonnage (kg/day):</b>	11.000 kg On-site
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**Frequency and duration of use**

	<b>Use duration:</b>	<b>Frequency of use:</b>	<b>Remarks</b>
<b>Exposure time</b>	30 - 120 min	4 - 5 days per week	PROC1
<b>Exposure time</b>	15 min		PROC4
<b>Exposure time</b>	240 - 480 min	4 - 5 days per week	PROC8b
<b>Exposure time</b>	480 min		PROC9

**Human factors not influenced by risk management**

**Exposed skin areas:**

<b>Palm of one hand</b>	240 cm <sup>2</sup> PROC1
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<b>Palm of both hands</b>	480 cm <sup>2</sup> PROC4
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<b>Both hands</b>	960 cm <sup>2</sup> PROC8b PROC9
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**Other given operational conditions affecting workers exposure**

<b>Area of use</b>	<b>Room size:</b>	<b>Temperature:</b>	<b>Ventilation rate</b>	<b>Remarks</b>
Indoor use			10	All relevant Process Categories

<b>Other relevant operational conditions:</b>	<p>Respiration: 30 m<sup>3</sup>/day          Body weight: 70 kg          Room volume: 100 - 1000 m<sup>3</sup> . Use in closed process, no likelihood of exposure Transfer of substance or mixture (charging and discharging) at dedicated facilities          Room volume: 1000 m<sup>3</sup> . Use in batch and other process (synthesis) where opportunity for exposure arises Transfer of substance or mixture into small containers (dedicated filling line, including weighing)          Process temperature: 50 - 150 °C . Use in batch and other process (synthesis) where opportunity for exposure arises          Process temperature: 60 °C . Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</p>
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**RTV560/DBT**

**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet

**Technical conditions and measures to control dispersion from source towards the worker**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	Containment measures required		All relevant Process Categories
	Inhalation	with local exhaust ventilation	90 %	PROC4, PROC9

**Organisational measures to prevent/limit releases, dispersion and exposure**

Application	Route of Exposure	Protective Measures	Remarks
Industrial:	Inhalation, Dermal	Specific workers training in use of personal protective equipment	All relevant Process Categories

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
	Inhalation	Wear respirator if there is dust formation.		All relevant Process Categories
	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories
	Dermal	Wear suitable protective clothing., Wear eye protection/face protection.		All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

RTV560/DBT

**3. Exposure estimation**

**Environment:**

**Manufacture of substance:**

**ERC1:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,345 ng/L	< 0,01	EUSES	
freshwater sediment	0,0375 µg/kg wwt	< 0,01	EUSES	
Saltwater	0,0 mg/l	< 0,01	EUSES	
Saltwater Sediment	0,0 mg/kg wwt	< 0,01	EUSES	
Soil	0,903 µg/kg wwt	0,02	EUSES	
Sewage treatment plant	0,03 mg/l	< 0,01	EUSES	

**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	15,6 ng/L	0,03	EUSES	Hazardous waste incineration.none
freshwater sediment	1,7 µg/kg wwt	0,03	EUSES	Hazardous waste incineration.none
Saltwater	1,56 ng/L	0,03	EUSES	Hazardous waste incineration.none
Saltwater Sediment	0,17 µg/kg wwt	0,03	EUSES	Hazardous waste incineration.none
Soil	3,4 µg/kg wwt	0,08	EUSES	Hazardous waste incineration.none
Sewage treatment plant	0,157 µg/l	< 0,01	EUSES	Hazardous waste incineration.none

**RTV560/DBT**

**Health:**

**Manufacture of substance:**

**PROC1:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, including modification factor for exposure duration	0,00 µg/m³	0,00	StoffenManager (inhalation exposure), Handling of product in tightly closed containers	none
Worker - dermal, long-term - systemic	Indoor, including modification factor for use of appropriate dermal protection, including modification factor for exposure duration	0,0343 mg/kg bw/day	0,172	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,172		none

**PROC4:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation	0,81 µg/m³	0,081	Used ART model, Activities with open liquid surfaces or open reservoirs - activity with agitated surfaces	none
Worker - dermal, long-term - systemic	Indoor, including modification factor for	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none

**RTV560/DBT**

	use of appropriate dermal protection, including modification factor for exposure duration, With local exhaust ventilation				
Worker - combined, long-term - systemic			0,424		none

**PROC8b:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation	0,00 mg/m <sup>3</sup>	0,00	StoffenManager (inhalation exposure), Handling of product in tightly closed containers	none
Worker - dermal, long-term - systemic	Indoor, including modification factor for use of appropriate dermal protection, With local exhaust ventilation	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,343		none

**PROC9:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation	0,0039 mg/m <sup>3</sup>	0,39	Used ART model, Transfer of liquid products -	none

**RTV560/DBT**

				falling liquids	
Worker - dermal, long-term - systemic	Indoor, including modification factor for use of appropriate dermal protection, With local exhaust ventilation	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,733		none

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 2.**

**Exposure scenario worker**

**1. Formulation into mixture**

**List of use descriptors**

<b>Sector(s) of use</b>	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites  SU10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
<b>Product categories [PC]:</b>	PC1: Adhesives, sealants  PC9a: Coatings and paints, thinners, paint removers  PC26: Paper and board treatment products  PC32: Polymer preparations and compounds  PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids

<b>Name of contributing environmental</b>	<u>Formulation into mixture:</u>
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**RTV560/DBT**

<b>scenario and corresponding ERC</b>	ERC2: Formulation into mixture (mixtures)
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<b>List of names of contributing worker scenarios and corresponding PROCs</b>	<p><u>Formulation into mixture:</u></p> <p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</p>
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**2.1. Contributing exposure scenario controlling environmental exposure for: Formulation into mixture**

**Product characteristics**

<b>Physical state</b>	liquid
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<b>Viscosity:</b>	
<b>Kinematic viscosity:</b>	This information is not available.
<b>Dynamic viscosity:</b>	This information is not available.

**Amounts used**

<b>Annual amount per site</b>	3,65 tonnes/year Formulation into mixture
<b>Daily amount per site</b>	10 kg

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	365 Emission days, Formulation into mixture

**RTV560/DBT**

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	172.000,000 m <sup>3</sup> /d
<b>Local freshwater dilution factor</b>	1.000
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Intermittent release	10	0 %	0 %	0,001 %	

**Other relevant operational conditions** not relevant

**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	Exhaust air scrubber., Incineration Effectiveness: 100 %.
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**Organisational measures to prevent/limit release from site:**

none

**Conditions and measures related to sewage treatment plant**

**Size of municipal sewage system/treatment plant (m<sup>3</sup>/d):**

<b>type:</b>	municipal, industrial
<b>Discharge rate:</b>	1.000 m <sup>3</sup> /d
<b>Treatment effectiveness:</b>	99 %
<b>Sludge treatment technique:</b>	Incineration
<b>Measures to limit air emissions:</b>	not relevant

**RTV560/DBT**

<b>Remarks:</b>	not relevant
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**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Hazardous waste incineration.		

**Conditions and measures related to external recovery of waste**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**2.2. Contributing exposure scenario controlling worker exposure for: Formulation into mixture**

<b>Process Categories:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</p>
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 5 %.
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<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	25 °C
<b>Remarks</b>	not relevant

**RTV560/DBT**

**Amounts used**

<b>Amounts used</b>	10 kilograms per day Formulation
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**Frequency and duration of use**

	<b>Use duration:</b>	<b>Frequency of use:</b>	<b>Remarks</b>
<b>Exposure time</b>	30 - 120 min	4 - 5 days per week	PROC1
<b>Exposure time</b>	15 - 60 min	4 - 5 days per week	PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9

**Human factors not influenced by risk management**

**Exposed skin areas:**

<b>Palm of one hand</b>	240 cm <sup>2</sup> PROC1 PROC3
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<b>Palm of both hands</b>	480 cm <sup>2</sup> PROC2 PROC4 PROC5
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<b>Both hands</b>	960 cm <sup>2</sup> PROC8b PROC9
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**Other given operational conditions affecting workers exposure**

<b>Area of use</b>	<b>Room size:</b>	<b>Temperature:</b>	<b>Ventilation rate</b>	<b>Remarks</b>
Indoor use			10	All relevant Process Categories

<b>Other relevant operational conditions:</b>	Respiration: 30 m <sup>3</sup> /day Body weight: 70 kg Room volume: 100 - 1000 m <sup>3</sup>
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet
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**Technical conditions and measures to control dispersion from source towards the worker**

<b>Application</b>	<b>Route of Exposure</b>	<b>Protective Measures</b>	<b>Effectiveness</b>	<b>Remarks</b>
Industrial:	Inhalation	Provide adequate ventilation.		All relevant Process Categories
	Inhalation	Indoor, with local exhaust ventilation	> 95 %	All relevant Process Categories

**RTV560/DBT**

**Organisational measures to prevent/limit releases, dispersion and exposure**

Application	Route of Exposure	Protective Measures	Remarks
Industrial:	Dermal, Inhalation	Specific workers training in use of personal protective equipment	All relevant Process Categories

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
	Inhalation	If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.		All relevant Process Categories
	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories
	Dermal	Wear suitable protective clothing.		All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**3. Exposure estimation**

**Environment:**

**Formulation into mixture:**

**ERC2:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,114 µg/l	0,25	EUSES	
freshwater sediment	0,0124 mg/kg wwt	0,25	EUSES	
Saltwater	0,0114 µg/l	0,25	EUSES	
Saltwater Sediment	1,24 µg/kg wwt	0,25	EUSES	

**RTV560/DBT**

Soil	0,0245 mg/kg wwt	0,6	EUSES	
Sewage treatment plant	1,15 µg/l	< 0,01	EUSES	

**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,0156 µg/l	0,03	EUSES	
freshwater sediment	1,7 µg/kg wwt	0,03	EUSES	
Saltwater	1,56 ng/L	0,03	EUSES	
Saltwater Sediment	0,17 µg/kg wwt	0,03	EUSES	
Soil	3,4 µg/kg wwt	0,08	EUSES	
Sewage treatment plant	0,157 µg/l	< 0,01	EUSES	

**RTV560/DBT**

**Health:**

**Formulation into mixture:**

**PROC1:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Without local exhaust ventilation, including modification factor for exposure duration	0,00 mg/m <sup>3</sup>	0,00	StoffenManager (inhalation exposure), Handling of product in tightly closed containers	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, including modification factor for exposure duration, Without local exhaust ventilation, Including modification factor for concentration in product	0,0034 mg/kg bw/day	0,017	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,017		none

**PROC2:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, Indoor, Including modification	5,26 µg/m <sup>3</sup>	0,526	ECETOC TRA worker v3	none

**RTV560/DBT**

	n factor for concentration in product, including modification factor for exposure duration				
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Indoor, With local exhaust ventilation, Including modification factor for concentration in product	0,0137 mg/kg bw/day	0,0685	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,595		none

**PROC3:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, including modification factor for exposure duration, Including modification factor for concentration in product	5,26 µg/m³	0,526	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for	0,0034 mg/kg bw/day	0,017	ECETOC TRA worker v3	none



**RTV560/DBT**

	use of appropriate dermal protection, With local exhaust ventilation, including modification factor for exposure duration, Including modification factor for concentration in product				
Worker - combined, long-term - systemic			0,543		none

**PROC4:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, including modification factor for exposure duration, Including modification factor for concentration in product	5,26 µg/m³	0,526	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, With local exhaust ventilation, including modificatio	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none

**RTV560/DBT**

	n factor for exposure duration, Including modification n factor for concentration in product				
Worker - combined, long-term - systemic			0,869		none

**PROC5:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, including modification n factor for exposure duration, Including modification n factor for concentration in product	5,26 µg/m³	0,526	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification n factor for use of appropriate dermal protection, With local exhaust ventilation, including modification n factor for exposure duration, Including modification n factor for concentration in product	0,0069 mg/kg bw/day	0,0345	ECETOC TRA worker v3	none

**RTV560/DBT**

Worker - combined, long-term - systemic			0,516		none
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**PROC8b:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, including modification factor for exposure duration	5,26 µg/m³	0,526	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, With local exhaust ventilation, including modification factor for exposure duration, Including modification factor for concentration in product	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic	Including modification factor for concentration in product		0,869		none

**PROC9:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, including	5,26 µg/m³	0,526	ECETOC TRA worker v3	none

**RTV560/DBT**

	modification factor for exposure duration, Including modification factor for concentration in product				
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, With local exhaust ventilation, including modification factor for exposure duration, Including modification factor for concentration in product	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,869		none

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 3.**

**Exposure scenario worker**

**1. Industrial use, Process regulators (synthesis regulators) - Catalysts**

**List of use descriptors**

**RTV560/DBT**

<p><b>Sector(s) of use</b></p>	<p>SU5: Manufacture of textiles, leather, fur</p> <p>SU6a: Manufacture of wood and wood products</p> <p>SU6b: Manufacture of pulp, paper and paper products</p> <p>SU9: Manufacture of fine chemicals</p> <p>SU10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)</p> <p>SU11: Manufacture of rubber products</p> <p>SU12: Manufacture of plastics products, including compounding and conversion</p> <p>SU15: Manufacture of fabricated metal products, except machinery and equipment</p> <p>SU16: Manufacture of computer, electronic and optical products, electrical equipment</p> <p>SU17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment</p> <p>SU18: Manufacture of furniture</p> <p>SU19: Building and construction work</p>
<p><b>Product categories [PC]:</b></p>	<p>PC1: Adhesives, sealants</p> <p>PC9a: Coatings and paints, thinners, paint removers</p> <p>PC14: Metal surface treatment products</p> <p>PC15: Non-metal surface treatment products</p> <p>PC19: Intermediate (precursor)</p> <p>PC31: Polishes and wax blends</p> <p>PC32: Polymer preparations and compounds</p> <p>PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids</p> <p>PC35: Washing and cleaning products</p> <p>PC0: Other</p>

<p><b>Name of contributing environmental scenario and corresponding ERC</b></p>	<p><u>Industrial use, Process regulators (synthesis regulators) - Catalysts:</u></p>
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**RTV560/DBT**

	<p>ERC3: Formulation in materials</p> <p>ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)</p> <p>ERC5: Industrial use resulting in inclusion into or onto a matrix</p> <p>ERC6b: Industrial use of reactive processing aids</p> <p>ERC6d: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)</p>
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<p><b>List of names of contributing worker scenarios and corresponding PROCs</b></p>	<p><u>Industrial use:</u></p> <p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>
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**RTV560/DBT**

**2.1. Contributing exposure scenario controlling environmental exposure for: Industrial use, Process regulators (synthesis regulators) - Catalysts**

**Product characteristics**

<b>Physical state</b>	liquid
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**Viscosity:**

<b>Kinematic viscosity:</b>	This information is not available.
<b>Dynamic viscosity:</b>	This information is not available.

**Amounts used**

<b>Annual amount per site</b>	850 tonnes/year Formulation into solid matrix Use of non-reactive processing aid at industrial site (no inclusion into or onto article) Use at industrial site leading to inclusion into/onto article Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
<b>Annual amount per site</b>	0,365 tonnes/year Use of reactive processing aid at industrial site (no inclusion into or onto article)
<b>Fraction of EU tonnage used in region:</b>	1

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	365 Emission days

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m³/d):</b>	not relevant
<b>Local freshwater dilution factor</b>	not relevant
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	

RTV560/DBT					
Continuous release	365	0 %	0 %	-	Formulation into solid matrix Use of non-reactive processing aid at industrial site (no inclusion into or onto article) Use at industrial site leading to inclusion into/onto article Use of reactive processing aid at industrial site (no inclusion into or onto article) Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
Continuous release	330	0,01 %	-	0,01 %	Hazardous waste incineration.

<b>Other relevant operational conditions</b>	not relevant
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	Air emission abatement not specifically required for this substance.
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**Organisational measures to prevent/limit release from site:**

none



**RTV560/DBT**

**Conditions and measures related to sewage treatment plant**

**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Hazardous waste incineration.		

**Conditions and measures related to external recovery of waste**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**RTV560/DBT**

**2.2. Contributing exposure scenario controlling worker exposure for: Industrial use, Process regulators (synthesis regulators) - Catalysts**

<b>Process Categories:</b>	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>
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**RTV560/DBT**

**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	1% solution Use in closed process, no likelihood of exposure Use in closed, continuous process with occasional controlled exposure Use in closed batch process (synthesis or formulation) Use in batch and other process (synthesis) where opportunity for exposure arises Mixing or blending in batch processes Roller application or brushing Treatment of articles by dipping and pouring Production of preparations or articles by tableting, compression, extrusion, pelletisation  Covers percentage substance in the product up to 5 %. Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
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<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	25 °C
<b>Remarks</b>	not relevant

**Amounts used**

<b>Maximum daily site tonnage (kg/day):</b>	1 kg Industrial use of reactive processing aids
<b>Amounts used</b>	850 tonnes/year

**RTV560/DBT**

**Frequency and duration of use**

	<b>Use duration:</b>	<b>Frequency of use:</b>	<b>Remarks</b>
<b>Exposure time</b>	240 - 480 min	1 Exposure time per day	All relevant Process Categories

**Human factors not influenced by risk management**

**Exposed skin areas:**

<b>Palm of one hand</b>	240 cm <sup>2</sup> PROC1 PROC3 PROC13
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<b>Palm of both hands</b>	480 cm <sup>2</sup> PROC2 PROC4 PROC5 PROC10 PROC14
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<b>Both hands</b>	960 cm <sup>2</sup> PROC8b PROC9
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**Other given operational conditions affecting workers exposure**

<b>Area of use</b>	<b>Room size:</b>	<b>Temperature:</b>	<b>Ventilation rate</b>	<b>Remarks</b>
Indoor use			10	All relevant Process Categories

<b>Other relevant operational conditions:</b>	Respiration: 30 m <sup>3</sup> /day Body weight: 70 kg Room volume: > 1000 m <sup>3</sup>
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet

**Technical conditions and measures to control dispersion from source towards the worker**

<b>Application</b>	<b>Route of Exposure</b>	<b>Protective Measures</b>	<b>Effectiveness</b>	<b>Remarks</b>
Industrial:	Inhalation	Provide adequate ventilation.		All relevant Process Categories
	Inhalation	Indoor, with local exhaust ventilation	> 95 %	All relevant Process Categories

**RTV560/DBT**

**Organisational measures to prevent/limit releases, dispersion and exposure**

Application	Route of Exposure	Protective Measures	Remarks
Industrial:	Dermal, Inhalation	Specific workers training in use of personal protective equipment	All relevant Process Categories

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
	Inhalation	If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.	90 %	All relevant Process Categories
	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories
	Dermal	Wear suitable protective clothing.		All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**3. Exposure estimation**

**Environment:**

**Industrial use, Process regulators (synthesis regulators) - Catalysts:**

**ERC3, ERC4, ERC5, ERC6d:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,145 µg/l	0,31	EUSES	
freshwater sediment	0,0158 mg/kg wwt	0,31	EUSES	
Saltwater	0,0145 µg/l	0,32	EUSES	
Saltwater Sediment	1,58 µg/kg wwt	0,32	EUSES	

**RTV560/DBT**

Soil	0,0313 mg/kg wwt	0,77	EUSES	
Sewage treatment plant	1,46 µg/l	< 0,01	EUSES	

**ERC6b:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,0624 ng/L	< 0,01	EUSES	
freshwater sediment	0,0068 µg/kg wwt	< 0,01	EUSES	
Saltwater	0,0099 ng/L	< 0,01	EUSES	
Saltwater Sediment	0,0011 µg/kg wwt	< 0,01	EUSES	
Soil	0,0134 µg/kg wwt	< 0,01	EUSES	
Sewage treatment plant	0,628 ng/L	< 0,01	EUSES	

**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,0405 µg/l	0,09	EUSES	Hazardous waste incineration. none
freshwater sediment	4,42 µg/kg wwt	0,09	EUSES	
Saltwater	4,05 ng/L	0,09	EUSES	
Saltwater Sediment	0,442 µg/kg wwt	0,09	EUSES	
Soil	8,85 µg/kg wwt	0,22	EUSES	
Sewage treatment plant	0,408 µg/l	< 0,01	EUSES	

RTV560/DBT

**Health:**

**Industrial use, Process regulators (synthesis regulators) - Catalysts:**

**PROC1:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Without local exhaust ventilation, Including modification factor for concentration in product, Respiratory protection	2,63 µg/m³	0,26	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,0034 mg/kg bw/day	0,017	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,28	ECETOC TRA worker v3	none

**PROC2:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification factor for concentration in product, Respiratory	2,63 µg/m³	0,263	ECETOC TRA worker v3	none

**RTV560/DBT**

	protection				
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,0137 mg/kg bw/day	0,069	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,332	ECETOC TRA worker v3	none

**PROC3:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification factor for concentration in product, Respiratory protection	2,63 µg/m³	0,26	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,0034 mg/kg bw/day	0,017	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,28	ECETOC TRA worker v3	none



**RTV560/DBT**

**PROC4:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification factor for concentration in product, Respiratory protection	2,63 µg/m³	0,263	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,606	ECETOC TRA worker v3	none

**PROC5:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification factor for concentration in product, Respiratory protection	2,63 µg/m³	0,263	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification	0,0069 mg/kg	0,035	ECETOC TRA	none

**RTV560/DBT**

	n factor for use of appropriate dermal protection, Including modification n factor for concentration in product	bw/day		worker v3	
Worker - combined, long-term - systemic			0,298	ECETOC TRA worker v3	none

**PROC8a:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification n factor for concentration in product, Respiratory protection	5,26 µg/m³	0,526	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification n factor for use of appropriate dermal protection, Including modification n factor for concentration in product	0,0137 mg/kg bw/day	0,069	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,595	ECETOC TRA worker v3	none

**PROC10:**

	<b>Specific</b>	<b>Exposure</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
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**RTV560/DBT**

	<b>condition</b>	<b>e level</b>			
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification n factor for concentrati on in product, Respiratory protection	2,63 µg/m³	0,263	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modificatio n factor for use of appropriate dermal protection, Including modificatio n factor for concentrati on in product	0,1371 mg/kg bw/day	0,686	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,949	ECETOC TRA worker v3	none

**PROC13:**

	<b>Specific condition</b>	<b>Exposur e level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modificatio n factor for concentrati on in product, Respiratory protection	2,63 µg/m³	0,263	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modificatio n factor for use of	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none

**RTV560/DBT**

	appropriate dermal protection, Including modification factor for concentration in product				
Worker - combined, long-term - systemic			0,606	ECETOC TRA worker v3	none

**PROC14:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Indoor, With local exhaust ventilation, Including modification factor for concentration in product, Respiratory protection	2,63 µg/m³	0,263	ECETOC TRA worker v3	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,0343 mg/kg bw/day	0,172	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,435	ECETOC TRA worker v3	none

**RTV560/DBT**

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 4.**

**Exposure scenario worker**

**1.Additive premixing**

**List of use descriptors**

<b>Sector(s) of use</b>	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>Product categories [PC]:</b>	PC32: Polymer preparations and compounds

**Name of contributing environmental scenario and corresponding ERC**

Additive premixing:  
 ERC6d: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

**List of names of contributing worker scenarios and corresponding PROCs**

Additive premixing:  
 PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

**2.1.Contributing exposure scenario controlling environmental exposure for: Additive premixing**

**Product characteristics**

<b>Physical state</b>	liquid
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**Viscosity:**

<b>Kinematic viscosity:</b>	This information is not available.
<b>Dynamic viscosity:</b>	This information is not available.

**RTV560/DBT**

**Amounts used**

<b>Annual amount per site</b>	100 tonnes/year
<b>Fraction of EU tonnage used in region:</b>	1

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	100 Emission days

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	not relevant
<b>Local freshwater dilution factor</b>	not relevant
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Intermittent release	100	0 %	0 %	-	

<b>Other relevant operational conditions</b>	not relevant
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	not relevant
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**RTV560/DBT**

**Organisational measures to prevent/limit release from site:**

none

**Conditions and measures related to sewage treatment plant**

**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Hazardous waste incineration.		

**Conditions and measures related to external recovery of waste**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**2.2. Contributing exposure scenario controlling worker exposure for: Additive premixing**

<b>Process Categories:</b>	PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	Covers percentage substance in the product up to 5 %.
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<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	15 - 25 °C
<b>Remarks</b>	not relevant

**Amounts used**

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**RTV560/DBT**

**Frequency and duration of use**

	Use duration:	Frequency of use:	Remarks
Exposure time	480 min	Exposure time per day	PROC4

**Human factors not influenced by risk management**

**Exposed skin areas:**

Palm of both hands	480 cm <sup>2</sup> PROC4
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**Other given operational conditions affecting workers exposure**

Area of use	Room size:	Temperature:	Ventilation rate	Remarks
Indoor use	1.000 m <sup>3</sup>		10	

<b>Other relevant operational conditions:</b>	Respiration: 30 m <sup>3</sup> /day Body weight: 70 kg Process temperature: 15 - 25 °C
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet
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**Technical conditions and measures to control dispersion from source towards the worker**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation	Provide adequate ventilation.		All relevant Process Categories
	Inhalation	Indoor, with local exhaust ventilation	> 90 %	All relevant Process Categories



**RTV560/DBT**

**Organisational measures to prevent/limit releases, dispersion and exposure**

Application	Route of Exposure	Protective Measures	Remarks
Industrial:	Dermal, Inhalation	Specific workers training in use of personal protective equipment	All relevant Process Categories

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**3. Exposure estimation**

**Environment:**

**Additive premixing:**

**ERC6d:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,156 µg/l	0,34	EUSES	
freshwater sediment	0,017 mg/kg wwt	0,34	EUSES	
Saltwater	0,0156 µg/l	0,34	EUSES	
Saltwater Sediment	1,7 µg/kg wwt	0,34	EUSES	
Soil	0,0336 mg/kg wwt	0,83	EUSES	

**RTV560/DBT**

Sewage treatment plant	1,57 µg/l	< 0,01	EUSES	
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**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,0405 µg/l	0,09	EUSES	Hazardous waste incineration. none
freshwater sediment	4,42 µg/kg wwt	0,09	EUSES	
Saltwater	4,05 ng/L	0,09	EUSES	
Saltwater Sediment	0,442 µg/kg wwt	0,09	EUSES	
Soil	8,85 µg/kg wwt	0,22	EUSES	
Sewage treatment plant	0,408 µg/l	< 0,01	EUSES	

**RTV560/DBT**

**Health:**

**Additive premixing:**

**PROC4:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product, With local exhaust ventilation	0,0026 mg/m <sup>3</sup>	0,26	Used ART model, Activities with open liquid surfaces or open reservoirs - activity with agitated surfaces	none
Worker - dermal, long-term - systemic	Including modification factor for concentration in product, including modification factor for use of appropriate dermal protection	0,0686 mg/kg bw/day	0,343	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,603		none

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 5.**

**Exposure scenario worker**

**1.Manufacture of, Enamel**

**List of use descriptors**

**RTV560/DBT**

<b>Sector(s) of use</b>	SU9: Manufacture of fine chemicals
<b>Product categories [PC]:</b>	

<b>Name of contributing environmental scenario and corresponding ERC</b>	<u>Manufacture of, Enamel:</u> ERC2: Formulation into mixture (mixtures)
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<b>List of names of contributing worker scenarios and corresponding PROCs</b>	<u>Manufacture of:</u> PROC1: Use in closed process, no likelihood of exposure  PROC3: Use in closed batch process (synthesis or formulation)  PROC5: Mixing or blending in batch processes  PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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**2.1. Contributing exposure scenario controlling environmental exposure for: Manufacture of, Enamel**

**Product characteristics**

<b>Physical state</b>	liquid
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**Viscosity:**

<b>Kinematic viscosity:</b>	This information is not available.
<b>Dynamic viscosity:</b>	This information is not available.

**Amounts used**

<b>Annual amount per site</b>	100 tonnes/year
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**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	100 Emission days

**RTV560/DBT**

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	not relevant
<b>Local freshwater dilution factor</b>	not relevant
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Intermittent release	10	0 %	0 %	-	

**Other relevant operational conditions** not relevant

**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	not relevant
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**Organisational measures to prevent/limit release from site:**

none

**Conditions and measures related to sewage treatment plant**

**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Hazardous waste incineration.		

**Conditions and measures related to external recovery of waste**

**RTV560/DBT**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**2.2. Contributing exposure scenario controlling worker exposure for: Manufacture of, Enamel**

<b>Process Categories:</b>	PROC1: Use in closed process, no likelihood of exposure  PROC3: Use in closed batch process (synthesis or formulation)  PROC5: Mixing or blending in batch processes  PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	1 % dermal exposure  0.1 - 0.5 % inhalation exposure
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<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	15 - 25 °C
<b>Remarks</b>	not relevant

**Amounts used**

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**RTV560/DBT**

**Frequency and duration of use**

	<b>Use duration:</b>	<b>Frequency of use:</b>	<b>Remarks</b>
<b>Exposure time</b>	480 min	1 Exposure time per day	PROC8a

**Human factors not influenced by risk management**

**Exposed skin areas:**

<b>Palm of one hand</b>	240 cm <sup>2</sup> PROC1 PROC3
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<b>Palm of both hands</b>	480 cm <sup>2</sup> PROC5
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<b>Both hands</b>	960 cm <sup>2</sup> PROC8a PROC9
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**Other given operational conditions affecting workers exposure**

<b>Area of use</b>	<b>Room size:</b>	<b>Temperature:</b>	<b>Ventilation rate</b>	<b>Remarks</b>
Indoor use	300 m <sup>3</sup>		10	All relevant Process Categories

<b>Other relevant operational conditions:</b>	Respiration: 30 m <sup>3</sup> /day Body weight: 70 kg Process temperature: 15 - 25 °C . Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet
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**Technical conditions and measures to control dispersion from source towards the worker**

<b>Application</b>	<b>Route of Exposure</b>	<b>Protective Measures</b>	<b>Effectiveness</b>	<b>Remarks</b>
Industrial:	Inhalation	Provide adequate ventilation.		All relevant Process Categories
	Inhalation	Indoor, with local exhaust ventilation	> 90 %	PROC8a

**RTV560/DBT**

**Organisational measures to prevent/limit releases, dispersion and exposure**

Application	Route of Exposure	Protective Measures	Remarks
Industrial:	Dermal, Inhalation	Specific workers training in use of personal protective equipment	All relevant Process Categories

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**3. Exposure estimation**

**Environment:**

**Manufacture of, Enamel:**

**ERC2:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,156 µg/l	0,34	EUSES	
freshwater sediment	0,017 mg/kg wwt	0,34	EUSES	
Saltwater	0,0156 µg/l	0,34	EUSES	
Saltwater Sediment	1,7 µg/kg wwt	0,34	EUSES	
Soil	0,0336 mg/kg wwt	0,83	EUSES	



**RTV560/DBT**

Sewage treatment plant	1,57 µg/l	< 0,01	EUSES	
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**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,0405 µg/l	0,09	EUSES	
freshwater sediment	4,42 µg/kg wwt	0,09	EUSES	
Saltwater	4,05 ng/L	0,09	EUSES	
Saltwater Sediment	0,442 µg/kg wwt	0,09	EUSES	
Soil	8,85 µg/kg wwt	0,22	EUSES	
Sewage treatment plant	0,408 µg/l	< 0,01	EUSES	

RTV560/DBT

**Health:**

**Manufacture of, Enamel:**

**PROC8a:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product, With local exhaust ventilation	0,29 µg/m³	0,029	Used ART model, Transfer of liquid products - falling liquids	All relevant Process Categories covered with this PROC
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product, With local exhaust ventilation	0,0137 mg/kg bw/day	0,069	ECETOC TRA worker v3	All relevant Process Categories covered with this PROC
Worker - combined, long-term - systemic			0,098		All relevant Process Categories covered with this PROC
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product, With local exhaust ventilation, Manufacturing equipment cleaning, Manufacturing	0,033 µg/m³	0,0033	Used ART model, Manufacturing equipment maintenance	All relevant Process Categories covered with this PROC

**RTV560/DBT**

	equipment maintenance				
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product, With local exhaust ventilation	0,0137 mg/kg bw/day	0,069	ECETOC TRA worker v3	All relevant Process Categories covered with this PROC
Worker - combined, long-term - systemic			0,072		All relevant Process Categories covered with this PROC

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 6.**

**Exposure scenario worker**

**1. Enameling and coating of electrical wire**

**List of use descriptors**

<b>Sector(s) of use</b>	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>Product categories [PC]:</b>	

<b>Name of contributing environmental scenario and corresponding ERC</b>	<p><u>Enameling and coating of electrical wire:</u>                  ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)</p> <p>ERC5: Industrial use resulting in inclusion into or onto a matrix</p>
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**RTV560/DBT**

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<b>List of names of contributing worker scenarios and corresponding PROCs</b>	<p><u>Enameling and coating of electrical wire:</u>                  PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
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**2.1. Contributing exposure scenario controlling environmental exposure for: Enameling and coating of electrical wire**

**Product characteristics**

<b>Physical state</b>	liquid
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**Viscosity:**

<b>Kinematic viscosity:</b>	Not applicable
<b>Dynamic viscosity:</b>	Not applicable

**Amounts used**

<b>Annual amount per site</b>	100 tonnes/year
<b>Fraction of EU tonnage used in region:</b>	1

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	not relevant

**RTV560/DBT**

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	not relevant
<b>Local freshwater dilution factor</b>	not relevant
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Continuous release	100	0 %	0 %	-	

**Other relevant operational conditions** not relevant

**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	not relevant
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**Organisational measures to prevent/limit release from site:**

none

**Conditions and measures related to sewage treatment plant**

**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Hazardous waste incineration.		

**Conditions and measures related to external recovery of waste**

**RTV560/DBT**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**2.2. Contributing exposure scenario controlling worker exposure for: Enameling and coating of electrical wire**

<b>Process Categories:</b>	PROC1: Use in closed process, no likelihood of exposure  PROC2: Use in closed, continuous process with occasional controlled exposure  PROC3: Use in closed batch process (synthesis or formulation)  PROC5: Mixing or blending in batch processes  PROC7: Industrial spraying  PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  PROC10: Roller application or brushing  PROC13: Treatment of articles by dipping and pouring
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**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	1 % dermal exposure  0.1 - 0.5 % inhalation exposure
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<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	> 100 °C
<b>Remarks</b>	not relevant

**Amounts used**

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**RTV560/DBT**

**Frequency and duration of use**

	Use duration:	Frequency of use:	Remarks
Exposure time	480 min	1 Exposure time per day	PROC1, PROC2, PROC3, PROC5, PROC7, PROC8a, PROC10, PROC13

**Human factors not influenced by risk management**

**Exposed skin areas:**

Palm of one hand	240 cm <sup>2</sup> PROC1 PROC3 PROC13
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Palm of both hands	480 cm <sup>2</sup> PROC2 PROC5 PROC10
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Both hands	960 cm <sup>2</sup> PROC8a
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Both hands and main part of the arms	1500 cm <sup>2</sup> PROC7
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**Other given operational conditions affecting workers exposure**

Area of use	Room size:	Temperature:	Ventilation rate	Remarks
Indoor use	300 m <sup>3</sup>		10	Industrial spraying, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Roller application or brushing, Treatment of articles by dipping and pouring

<b>Other relevant operational conditions:</b>	Respiration: 30 m <sup>3</sup> /day Body weight: 70 kg Process temperature: 15 - 25 °C . Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities Roller application or brushing Treatment of articles by dipping and pouring
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet

**RTV560/DBT**

**Technical conditions and measures to control dispersion from source towards the worker**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation	Provide adequate ventilation.		All relevant Process Categories
	Inhalation	with local exhaust ventilation	90 %	PROC7, PROC10, PROC13, PROC8a,
Industrial, Manufacturing equipment cleaning:	Inhalation	without local exhaust ventilation		PROC8a

**Organisational measures to prevent/limit releases, dispersion and exposure**

Application	Route of Exposure	Protective Measures	Remarks
Industrial:	Dermal, Inhalation	Specific workers training in use of personal protective equipment	All relevant Process Categories

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**3. Exposure estimation**

**Environment:**

**Enameling and coating of electrical wire:**

**ERC4, ERC5:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,156 µg/l	0,34	EUSES	
freshwater sediment	0,017 mg/kg wwt	0,34	EUSES	



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Saltwater	0,0156 µg/l	0,34	EUSES	
Saltwater Sediment	0,17 µg/kg wwt	0,34	EUSES	
Soil	0,0336 mg/kg wwt	0,83	EUSES	
Sewage treatment plant	1,57 µg/l	< 0,01	EUSES	

**RTV560/DBT**

**Health:**

**Enameling and coating of electrical wire:**

**PROC7:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, Including modification factor for concentration in product	0,9900 µg/m³	0,099	Used ART model, spray application	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product, With local exhaust ventilation	1,070 µg/kg bw/day	0,00535	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,10		none

**PROC8a:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, Including modification factor for concentration in product	0,29 µg/m³	0,029	Used ART model, Transfer of liquid products - falling liquids	none
Worker - dermal, long-term - systemic	including modification factor for	0,069 µg/kg bw/day	0,00035	ECETOC TRA worker v3	none

**RTV560/DBT**

	use of appropriate dermal protection, Including modification factor for concentration in product, With local exhaust ventilation				
Worker - combined, long-term - systemic			0,029		none
Worker - inhalative, long-term - systemic	With local exhaust ventilation, Including modification factor for concentration in product	0,033 µg/m³	0,0033	Used ART model, Manufacturing equipment maintenance	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product, With local exhaust ventilation	0,069 µg/kg bw/day	0,00035	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,0036		none

**PROC10:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation,	0,3300 µg/m³	0,069	Used ART model, Spread,	none

**RTV560/DBT**

	Including modification factor for concentration in product			spreading, liquid products	
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product, With local exhaust ventilation	0,6900 mg/kg bw/day	0,0017	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,071		none

**PROC13:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	With local exhaust ventilation, Including modification factor for concentration in product	0,0033 µg/m³	0,00033	Used ART model, Activities with open liquid surfaces or open reservoirs - activity with undisturbed surfaces (no aerosol formation)	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including	0,34 µg/kg bw/day	0,0017	ECETOC TRA worker v3	none

**RTV560/DBT**

	modification factor for concentration in product, With local exhaust ventilation				
Worker - combined, long-term - systemic			0,002		none

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 7.**

**Exposure scenario worker**

**1. Professional use, Process regulators (synthesis regulators) - Catalysts**

**List of use descriptors**

<b>Sector(s) of use</b>	SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  SU19: Building and construction work
<b>Product categories [PC]:</b>	PC1: Adhesives, sealants  PC9a: Coatings and paints, thinners, paint removers  PC9b: Fillers, putties, plasters, modelling clay  PC0: Other

**Name of contributing environmental scenario and corresponding ERC**

Professional use, Process regulators (synthesis regulators) - Catalysts:  
ERC8a: Wide dispersive indoor use of processing aids in open systems  
  
ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix  
  
ERC8d: Wide dispersive outdoor use of processing aids in open systems

**RTV560/DBT**

	ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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<b>List of names of contributing worker scenarios and corresponding PROCs</b>	<p><u>Professional use:</u>                  PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p>
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**2.1. Contributing exposure scenario controlling environmental exposure for: Professional use, Process regulators (synthesis regulators) - Catalysts**

**Product characteristics**

<b>Physical state</b>	liquid
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<b>Viscosity:</b>	
<b>Kinematic viscosity:</b>	Not applicable
<b>Dynamic viscosity:</b>	Not applicable

**Amounts used**

<b>Annual amount per site</b>	850 tonnes/year Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
<b>Annual amount per site</b>	0,365 Widespread use leading to inclusion into/onto article (indoor) Widespread use leading to inclusion into/onto article (outdoor)
<b>Fraction of EU tonnage used in region:</b>	0,1

**RTV560/DBT**

**Frequency and duration of use**

<b>Batch process:</b>	not relevant
<b>Continuous process:</b>	365 Emission days

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m³/d):</b>	not relevant
<b>Local freshwater dilution factor</b>	not relevant
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Continuous release	365	0 %	0 %	0,2 %	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Continuous release	365	15 %	-	1 %	Widespread use leading to inclusion into/onto article (indoor)
Continuous release	365	15 %	0,5 %	1 %	Widespread use leading to inclusion into/onto article (outdoor)
Continuous release	365	0,05 %	0,16 %	3,2 %	Waste treatment

<b>Other relevant operational conditions</b>	not relevant
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 8 of the safety data sheet (Environmental exposure controls).

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

<b>Air</b>	not relevant
<b>Soil</b>	not relevant
<b>Water</b>	Ensure all waste water is collected and treated via a

**RTV560/DBT**

	WWTP.
<b>Sediment:</b>	not relevant
<b>Remarks:</b>	not relevant

**Organisational measures to prevent/limit release from site:**

none

**Conditions and measures related to sewage treatment plant**

**Conditions and measures related to external treatment of waste for disposal**

**Fraction of used amount transferred to external waste treatment:**

Suitable waste treatment	Treatment effectiveness	Remarks
Landfill		

**Conditions and measures related to external recovery of waste**

This information is not available.

**Additional good practice advice beyond the REACH CSA**

This information is not available.

**2.2. Contributing exposure scenario controlling worker exposure for: Professional use, Process regulators (synthesis regulators) - Catalysts**

<b>Process Categories:</b>	<p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes</p> <p>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p>
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**RTV560/DBT**

**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	1 % dermal exposure  0.1 - 0.5 % inhalation exposure
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<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	25 °C
<b>Remarks</b>	not relevant

**Amounts used**

<b>Amounts used</b>	850 tonnes/year
<b>Maximum daily site tonnage (kg/day):</b>	1 kg

**RTV560/DBT**

**Frequency and duration of use**

	<b>Use duration:</b>	<b>Frequency of use:</b>	<b>Remarks</b>
<b>Exposure time</b>	240 - 480 min	1 Exposure time per day	All relevant Process Categories

**Human factors not influenced by risk management**

**Exposed skin areas:**

<b>Palm of one hand</b>	240 cm <sup>2</sup> PROC1 PROC3 PROC13
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<b>Palm of both hands</b>	480 cm <sup>2</sup> PROC2 PROC4 PROC5 PROC10 PROC14
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<b>Both hands</b>	960 cm <sup>2</sup> PROC8b PROC9
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**Other given operational conditions affecting workers exposure**

<b>Area of use</b>	<b>Room size:</b>	<b>Temperature:</b>	<b>Ventilation rate</b>	<b>Remarks</b>
Indoor use	300 m <sup>3</sup>		10	Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Roller application or brushing, Non industrial spraying

<b>Other relevant operational conditions:</b>	Respiration: 30 m <sup>3</sup> /day Body weight:: 70 kg
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**Risk management measures (RMM)**

**Technical conditions and measures at process level (source) to prevent release**

See chapter 7 of the safety data sheet
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**RTV560/DBT**

**Technical conditions and measures to control dispersion from source towards the worker**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Professional:	Inhalation	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level, without local exhaust ventilation		All relevant Process Categories

**Organisational measures to prevent/limit releases, dispersion and exposure**

This information is not available.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Application	Route of Exposure	Protective Measures	Effectiveness	Remarks
Industrial:	Inhalation, Dermal	See chapter 8 of the safety data sheet (Personal protection equipment)		All relevant Process Categories
Professional:	Dermal	Wear suitable gloves.	90 %	All relevant Process Categories
	Dermal	Wear suitable protective clothing.		All relevant Process Categories

**Additional good practice advice beyond the REACH CSA**

This information is not available.

RTV560/DBT

**3. Exposure estimation**

**Environment:**

**Professional use, Process regulators (synthesis regulators) - Catalysts:**

**ERC8c:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,285 ng/L	< 0,01	EUSES	
freshwater sediment	0,031 µg/kg wwt	< 0,01	EUSES	
Saltwater	0,0432 ng/L	< 0,01	EUSES	
Saltwater Sediment	0,0047 µg/kg wwt	< 0,01	EUSES	
Soil	0,075 µg/kg wwt	< 0,01	EUSES	
Sewage treatment plant	2,51 ng/L	< 0,01	EUSES	

**ERC8f:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,288 ng/L	< 0,01	EUSES	
freshwater sediment	0,0313 µg/kg wwt	< 0,01	EUSES	
Saltwater	0,0435 ng/L	< 0,01	EUSES	
Saltwater Sediment	0,0047 µg/kg wwt	< 0,01	EUSES	
Soil	0,0752 µg/kg wwt	< 0,01	EUSES	
Sewage treatment plant	2,51 ng/L	< 0,01	EUSES	

**ERC8a, ERC8d:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,12 µg/l	0,26	EUSES	

**RTV560/DBT**

freshwater sediment	0,0131 mg/kg wwt	0,26	EUSES	
Saltwater	0,012 µg/l	0,26	EUSES	
Saltwater Sediment	1,31 µg/kg wwt	0,26	EUSES	
Soil	0,0248 mg/kg wwt	0,61	EUSES	
Sewage treatment plant	1,16 µg/l	< 0,01	EUSES	

**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,041 µg/l	0,09	EUSES	
freshwater sediment	4,46 µg/kg wwt	0,09	EUSES	
Saltwater	4,09 ng/L	0,09	EUSES	
Saltwater Sediment	0,445 µg/kg wwt	0,09	EUSES	
Soil	0,0092 µg/kg wwt	< 0,01	EUSES	
Sewage treatment plant	0,375 µg/l	< 0,01	EUSES	

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**Health:**

**Professional use, Process regulators (synthesis regulators) - Catalysts:**

**PROC4:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product	0,032 µg/m³	0,0032	Used ART model, Activities with open liquid surfaces or open reservoirs - activity with undisturbed surfaces (no aerosol formation)	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	3,450 µg/kg bw/day	0,017	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,2		none

**PROC5:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product	0,032 µg/m³	0,0032	Used ART model, Activities with open liquid surfaces or open reservoirs - activity with undisturbed surfaces (no	none

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				aerosol formation)	
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	6,88 µg/kg bw/day	0,0344	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,038		none

**PROC8a:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product	0,3200 µg/m³	0,03	Used ART model, Transfer of liquid products - falling liquids	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	6,880 µg/kg bw/day	0,0344	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,064		none

**PROC10:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative,	Including	0,0033	0,33	Used ART	none

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long-term - systemic	modification factor for concentration in product	µg/m³		model, Spread, spreading, liquid products	
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,0137 mg/kg bw/day	0,0685	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,4		none

**PROC11:**

	<b>Specific condition</b>	<b>Exposure level</b>	<b>RCR</b>	<b>Method</b>	<b>Remarks</b>
Worker - inhalative, long-term - systemic	Including modification factor for concentration in product	0,0033 mg/m³	0,33	Used ART model, spray application	none
Worker - dermal, long-term - systemic	including modification factor for use of appropriate dermal protection, Including modification factor for concentration in product	0,0536 mg/kg bw/day	0,268	ECETOC TRA worker v3	none
Worker - combined, long-term - systemic			0,6		none



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**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

**Exposure Scenario 8.**

**Exposure scenario consumer**

**1. Consumer use, Process regulators (synthesis regulators) - Catalysts:**

**List of use descriptors**

<b>Sector(s) of use</b>	SU21: Consumer uses: Private households (= general public = consumers)
<b>Product categories [PC]:</b>	PC1: Adhesives, sealants

**Name of contributing environmental scenario and corresponding ERC**

Consumer use, Process regulators (synthesis regulators) - Catalysts:  
 ERC8a: Wide dispersive indoor use of processing aids in open systems  
 ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix  
 ERC8d: Wide dispersive outdoor use of processing aids in open systems  
 ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix  
 ERC10a: Wide dispersive outdoor use of long-life articles and materials with low release  
 ERC11a: Widespread use of articles with low release (indoor)

**List of names of contributing worker scenarios and corresponding PROCs**

Consumer use:  
 :

**RTV560/DBT**

**2.1. Contributing exposure scenario controlling environmental exposure for: Consumer use, Process regulators (synthesis regulators) - Catalysts**

**Product characteristics**

<b>Physical state</b>	liquid
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**Viscosity**

<b>Kinematic viscosity</b>	This information is not available.
<b>Dynamic viscosity</b>	This information is not available.

**Amounts used**

<b>Annual amount per site</b>	850 tonnes/year
<b>Fraction of EU tonnage used in region:</b>	0,1

**Frequency and duration of use**

<b>Batch process</b>	not relevant
<b>Continuous process</b>	365 Emission days

**Environment factors not influenced by risk management**

<b>Flow rate of receiving surface water (m<sup>3</sup>/d):</b>	not relevant
<b>Local freshwater dilution factor</b>	not relevant
<b>Local marine water dilution factor</b>	not relevant

**Other given operational conditions affecting environmental exposure**

type	Emission days	Emission factors			Remarks
		Air	Soil	Water	
Continuous release	365	0,05 %	-	0,05 %	Widespread use of articles with low release (indoor)

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Continuous release	365	0 %	0 %	0,2 %	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) Widespread use leading to inclusion into/onto article (indoor) Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) Widespread use leading to inclusion into/onto article (outdoor) Widespread use of articles with low release (outdoor)
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<b>Other relevant operational conditions</b>	not relevant
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**Risk management measures (RMM)**

**Conditions and measures related to municipal sewage treatment plant**

**Conditions and measures related to external treatment of waste for disposal**

Fraction of used amount transferred to external waste treatment:

Suitable waste treatment	Treatment effectiveness	Remarks
Landfill		

**Conditions and measures related to external recovery of waste**

none
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**Additional good practice advice beyond the REACH CSA**

This information is not available.
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**2.2. Contributing exposure scenario controlling consumer exposure for: Consumer use, Process regulators (synthesis regulators) - Catalysts**

<b>Product Categories:</b>	PC1: Adhesives, sealants
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**RTV560/DBT**

**Product characteristics**

<b>Concentration of the substance in a mixture:</b>	0.1 %
<b>Physical form of the product:</b>	liquid
<b>Vapour pressure:</b>	not relevant
<b>Process temperature:</b>	25 °C
<b>Remarks</b>	not relevant
<b>Application:</b>	not relevant

**Amounts used**

<b>per task:</b>	0,075 kg
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**Frequency and duration of use**

	<b>Use duration (h/d):</b>	<b>Frequency of use:</b>	<b>Remarks</b>
<b>Exposure time</b>	45 min	3Exposure time per year	

**Human factors not influenced by risk management**

**Exposed skin areas:**

<b>ConsExpo default</b>	2 cm <sup>2</sup>
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**Other given operational conditions affecting consumers exposure**

<b>Area of use</b>	<b>Room size:</b>	<b>Temperature:</b>	<b>Ventilation rate</b>	<b>Remarks</b>
Indoor use	10 m <sup>3</sup>		2	Covers use at ambient temperatures.

<b>Other relevant operational conditions</b>	Release area: 250 cm <sup>2</sup> Release duration: 1800 seconds Body weight:: 60 kg Application duration: 30 min
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**RTV560/DBT**

**Risk management measures (RMM)**

**Conditions and measures related to information and behavioural advice to consumers**

Consumer

without local exhaust ventilation

**Conditions and measures related to personal protection, hygiene and health evaluation**

See chapter 8 of the safety data sheet (Personal protection equipment)

**Additional good practice advice beyond the REACH CSA**

not relevant

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**3. Exposure estimation and reference to its source**

**Environment:**

**Consumer use, Process regulators (synthesis regulators) - Catalysts:**

**ERC8a, ERC8c, ERC8d, ERC8f, ERC10a:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,12 µg/l	0,26	EUSES	none
freshwater sediment	0,0131 mg/kg wwt	0,26	EUSES	none
Saltwater	0,012 µg/l	0,26	EUSES	none
Saltwater Sediment	1,31 µg/kg wwt	0,26	EUSES	none
Soil	0,0248 mg/kg wwt	0,61	EUSES	none
Sewage treatment plant	1,16 µg/l	< 0,01	EUSES	none

**ERC11a:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,0294 µg/l	0,06	EUSES	none
freshwater sediment	3,2 µg/kg wwt	0,06	EUSES	none
Saltwater	4,6 ng/L	0,10	EUSES	none
Saltwater Sediment	0,501 µg/kg wwt	0,10	EUSES	none
Soil	6,21 µg/kg wwt	0,15	EUSES	none
Sewage treatment plant	0,283 µg/l	< 0,01	EUSES	none

**Waste:**

Compartment	PEC	RCR	Method	Remarks
Fresh water	0,041 µg/l	0,09	EUSES	none

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freshwater sediment	4,46 µg/kg wwt	0,09	EUSES	none
Saltwater	4,09 ng/L	0,09	EUSES	none
Saltwater Sediment	0,445 µg/kg wwt	0,09	EUSES	none
Soil	0,0093 µg/kg wwt	< 0,01	EUSES	none
Sewage treatment plant	0,375 µg/l	< 0,01	EUSES	none

**Health:**

**Consumer use, Process regulators (synthesis regulators) - Catalysts:**

**PC1:**

	Specific condition	Exposure level	RCR	Method	Remarks
Consumer - dermal, short-term - local and systemic	Joint sealants	0,025 mg/kg bw/day	0,05	ConsExpo v4.1	none
Consumer - inhalative, short-term - systemic	Joint sealants	< 0,0003 µg/m <sup>3</sup>	< 0,000014	ConsExpo 4.1 (Consumer inhalation exposure)	none
Consumer - combined, short-term - systemic			0,05	ConsExpo v4.1	none

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

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