

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 21.12.2018

Version: 10.0

Product: **Tinopal® CBS-X**

(ID no. 30475071/SDS_GEN_GB/EN)

Date of print 22.12.2018

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

1.1. Product identifier

Tinopal® CBS-X

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

Relevant identified uses: Raw material for the chemical-technical industry

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE
67056 Ludwigshafen
GERMANY

Contact address:

BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222

E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

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Eye Dam./Irrit. 2

H319

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:



Signal Word:

Warning

Hazard Statement:

H319 Causes serious eye irritation.

Precautionary Statements (Prevention):

P280 Wear eye/face protection.

P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinyleno)bis(benzenesulphonate)

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Derivative based on: distyryl biphenyl compound, anionic

This product contains (a) substance(s) included on the candidate list according to article 59 (1,10) of regulation EC No. 1907/2006 ('REACH') in a concentration equal or above 0.1% w/w: N,N-dimethylformamide

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

Content (W/W): $\geq 75\%$ - $< 100\%$ Eye Dam./Irrit. 2

CAS Number: 27344-41-8 H319

EC-Number: 248-421-0

REACH registration number: 01-2119533064-49

N,N-dimethylformamide

Content (W/W): $\geq 0.1\%$ - $< 0.2\%$ Flam. Liq. 3

CAS Number: 68-12-2 Acute Tox. 4 (Inhalation - vapour)

EC-Number: 200-679-5 Acute Tox. 4 (dermal)

REACH registration number: 01-2119475605-32 Eye Dam./Irrit. 2

INDEX-Number: 616-001-00-X Repr. 1B (unborn child)

H226, H319, H312, H332, H360D

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing. First aid personnel should pay attention to their own safety.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., (Further) symptoms and / or effects are not known so far

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

5.2. Special hazards arising from the substance or mixture

harmful vapours, carbon oxides, sulfur oxides

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures see, section 8.
Avoid contact with eyes.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Contain with dust binding material and dispose of.

Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation. Use suitable eye protection. Avoid contact with contaminated tools. Clean equipment and the work area every day. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Avoid dust formation. Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

68-12-2: N,N-dimethylformamide

TWA value 15 mg/m³ ; 5 ppm (WEL/EH 40 (UK))

Skin Designation (WEL/EH 40 (UK))

The substance can be absorbed through the skin.

STEL value 30 mg/m³ ; 10 ppm (WEL/EH 40 (UK))

TWA value 15 mg/m³ ; 5 ppm (OEL (EU))

indicative

STEL value 30 mg/m³ ; 10 ppm (OEL (EU))

indicative

Skin Designation (OEL (EU))

The substance can be absorbed through the skin.

Components with PNEC

27344-41-8: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

freshwater: 0.0625 mg/l

marine water: 0.00625 mg/l

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intermittent release: 0.1028 mg/l
STP: 100 mg/l
sediment (freshwater): 198000 mg/kg
sediment (marine water): 19800 mg/kg
soil: 1 mg/kg

Components with DNEL

27344-41-8: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)
worker: Long-term exposure- systemic effects, dermal: 53 mg/kg
consumer: Long-term exposure- systemic effects, dermal: 19 mg/kg
consumer: Long-term exposure- systemic effects, oral: 1.9 mg/kg
worker: Long-term exposure- systemic effects, Inhalation: 20.5 mg/m³

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Wearing of closed work clothing is recommended. No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: granules

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Colour:	yellow-green	
Odour:	characteristic	
Odour threshold:	not applicable	
pH value:	7 - 8.5 (1 g/l)	
Melting point:	> 300 °C	(OECD Guideline 102)
Boiling point:	not applicable, solid with a melting temperature over 300 °C	
Flash point:	not applicable	
Evaporation rate:	not applicable	
Flammability:	not highly flammable	(Directive 92/69/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Ignition temperature:	580 °C > 500 °C	(BAM) (VDI 2263, sheet 1, 2.6)
Vapour pressure:	not applicable	
Density:	1.49 g/cm ³ (22 °C)	(Directive 92/69/EEC, A.3)
Relative density:	1.49	(Directive 84/449/EEC, A.3)
Relative vapour density (air):	not applicable	
Solubility in water:	25 g/l (30 °C)	
Partitioning coefficient n-octanol/water (log Kow):	-2.32 (25 °C; pH value: 6.8)	(OECD Guideline 107)
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	350 °C	
Viscosity, dynamic:	not applicable	
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	

9.2. Other information

Self heating ability:	Currently, no data available
Bulk density:	550 - 670 g/l

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pKA: approx. -3 - -2.5

Hygroscoy: The product has not been tested.

Surface tension: approx. 59.9 mN/m (OECD-Guideline 115, Plate method)
(20 °C; 1.0 g/l)

Grain size distribution: No data available.

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

| Corrosion to metals: Corrosive effects to metal are not anticipated.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

| The product is not a dust explosion risk as supplied; however the build-up of fine dust can lead to a risk of dust explosions.

10.4. Conditions to avoid

Avoid extreme temperatures. Avoid dust formation. Avoid deposition of dust.

10.5. Incompatible materials

Substances to avoid:

strong oxidizing agents, strong bases, strong acids, reactive chemicals

10.6. Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

| Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. The inhalation of dusts represents a potential acute hazard.

Experimental/calculated data:

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LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): 3.9 mg/l 4 h (OECD Guideline 403)
An aerosol was tested.

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects:
Eye contact causes irritation. Not irritating to the skin.

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (other)

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
No mutagenic effect was found in various tests with bacteria and mammals.

Carcinogenicity

Assessment of carcinogenicity:
Based on available Data, the classification criteria are not met.

Information on: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

Assessment of carcinogenicity:

In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was observed. The induction of tumors in animal studies was due to a reversible, nongenotoxic effect for which a threshold dose can be derived.

Information on: N,N-dimethylformamide

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by inhalation, a carcinogenic effect was not observed. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity

Assessment of reproduction toxicity:

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Based on available Data, the classification criteria are not met.

Information on: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

Assessment of reproduction toxicity:

Repeated oral uptake of the substance did not cause damage to the reproductive organs.

Information on: N,N-dimethylformamide

Assessment of reproduction toxicity:

Animal studies gave no indication of a fertility impairing effect at doses which were not toxic to the parental animals.

Developmental toxicity

Assessment of teratogenicity:

| Not teratogenic in animal tests. Contains a component that causes teratogenicity in test animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

| Repeated oral exposure to large quantities may affect certain organs.

Information on: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

Assessment of repeated dose toxicity:

The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.

Information on: N,N-dimethylformamide

Assessment of repeated dose toxicity:

The substance may cause damage to the liver after repeated inhalation. The substance may cause damage to the liver after repeated ingestion.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

| Based on available Data, the classification criteria are not met.

Toxicity to fish:

LC50 (96 h) > 10 - < 100 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 84/449/EEC, C.1)

Aquatic invertebrates:

EC50 (24 h) > 1,000 mg/l, Daphnia magna (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (72 h) > 10 - < 100 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201)
acute Effect

No observed effect concentration (72 h) > 1 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201)

long-term effect

Microorganisms/Effect on activated sludge:

| EC50 (4 h) > 1,000 mg/l, activated sludge (ISO DIS 9509)

Chronic toxicity to fish:

No data available.

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) > 1 mg/l, Daphnia magna (OECD Guideline 211, semistatic)

Assessment of terrestrial toxicity:

No toxic effects have been observed in studies with soil living organisms.

Soil living organisms:

| LC50 (14 d) > 1,000 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

| Not readily biodegradable (by OECD criteria). Moderately/partially eliminated from water. The product can be degraded abiotically, e.g. chemical or photolytic processes.

Information on: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylen)bis(benzenesulphonate)

Assessment biodegradation and elimination (H₂O):

| *Not readily biodegradable (by OECD criteria). Poorly biodegradable.*

Information on: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylen)bis(benzenesulphonate)

Assessment of stability in water:

In contact with water the substance will hydrolyse slowly.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Does not significantly accumulate in organisms.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is expected.

Information on: Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7. Additional information

Sum parameter

Chemical oxygen demand (COD): 1,507 mg/g

Biochemical oxygen demand (BOD) Incubation period 5 d: 0 mg/g

Adsorbable organically-bound halogen (AOX): 0 %

Add. remarks environm. fate & pathway:

Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

Other ecotoxicological advice:

The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable

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UN proper shipping name: Not applicable
 Transport hazard class(es): Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number: Not classified as a dangerous good under transport regulations
 UN proper shipping name: Not applicable
 Transport hazard class(es): Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user: None known

Air transport

IATA/ICAO

UN number: Not classified as a dangerous good under transport regulations
 UN proper shipping name: Not applicable
 Transport hazard class(es): Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user: None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

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See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

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

Regulation: Not evaluated

Shipment approved: Not evaluated

Pollution name: Not evaluated

Pollution category: Not evaluated

Ship Type: Not evaluated

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 30

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. This includes the mentioned and recommended usage. Any other intended applications should be discussed with the manufacturer. In particular this concerns the application for products that are the object of special standards and regulations.

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Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Eye Dam./Irrit.	Serious eye damage/eye irritation
Flam. Liq.	Flammable liquids
Acute Tox.	Acute toxicity
Repr.	Reproductive toxicity
H319	Causes serious eye irritation.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H360D	May damage the unborn child.

If you have any queries relating to this MSDS, its contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Annex: Exposure Scenarios

Index

1. Formulation

SU3; ERC2; PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

2. Production of paper

SU3; ERC5; PROC2, PROC4, PROC8b

3. Use in Textile finishing

SU3; SU5; ERC5; PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13

4. Cleaning agents, maintenance

SU22; ERC8a, ERC8b; PROC8a, PROC8b, PROC9, PROC11, PROC13, PROC19

5. Cleaning agents, maintenance

SU21; ERC8a, ERC8b; PC35

6. Service life of articles, (paper)

SU 3, SU 22; ERC11a; PROC21; AC8

7. Service life of articles, (leather, textile, fibers)

SU 3, SU 22; ERC11a, ERC11b; PROC21; AC5

8. Service life of articles, Cleaning agents, maintenance

SU21; ERC8a, ERC8b; AC0

9. Service life of articles, (leather, textile, fibers)

SU21; ERC10a, ERC11a; AC5

10. Service life of articles, (paper)

SU21; ERC11a; AC8

1. Short title of exposure scenario

Formulation

SU3; ERC2; PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation of preparations As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario

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Use descriptors covered	PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment	

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and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	13.7 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
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Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes for

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	formulation of preparations and articles (multistage and/or significant contact). Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %
Physical state	Solid, liquid, pasty
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	13.7 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or preparation (charging/discharging) from/to ves-sels/large containers at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %
Physical state	Solid, liquid, pasty
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Both hands (960 cm ²)
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic

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Exposure estimate	13.7 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
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Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.8 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
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Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %

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Physical state	Solid, liquid, pasty
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.8 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylen)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic

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Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
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Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %
Physical state	Solid, liquid, pasty
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC14: Production of preparations or articles by tableting, compression, extrusion, pelettisation. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %
Physical state	Solid, liquid, pasty
Duration and Frequency of activity	> 240 min 5 days per week

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Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	3.43 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.2 % - <= 100 %
Physical state	Solid, liquid, pasty
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of one hand (240 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.34 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	

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For scaling see: <http://www.ecetoc.org/tra>

2. Short title of exposure scenario

Production of paper

SU3; ERC5; PROC2, PROC4, PROC8b

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC5: Industrial use resulting in inclusion into or onto a matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
Use descriptors covered	PROC2: Use in closed, continuous process with occasional controlled exposure. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.01 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	1.37 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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Contributing exposure scenario	
Use descriptors covered	PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 100 %
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	

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Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.8 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

3. Short title of exposure scenario

Use in Textile finishing

SU3; SU5; ERC5; PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC5: Industrial use resulting in inclusion into or onto a matrix As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
Use descriptors covered	PROC3: Use in closed batch process (synthesis or formulation). Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %
Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of one hand (240 cm ²)
Risk Management Measures	
Use suitable eye protection.	

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Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.34 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %
Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). Use domain: industrial

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Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %
Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	13.7 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	SU3: Industrial uses PROC8a: Transfer of substance or preparation (charging/discharging) from/to ves-sels/large containers at non-dedicated facilities
Operational conditions	
Physical state	Solid in solution
Duration and Frequency of activity	480 min
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v3.0, Worker
	Worker - dermal, long-term - systemic
Exposure estimate	13.71 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Use domain: industrial

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Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %
Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.5 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.8 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %
Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker

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	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	6.86 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
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Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %
Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Both hands (960 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.15 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	27.4 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
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Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0 % - <= 30 %

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Physical state	liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Use suitable eye protection.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	13.7 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

4. Short title of exposure scenario

Cleaning agents, maintenance

SU22; ERC8a, ERC8b; PROC8a, PROC8b, PROC9, PROC11, PROC13, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
Use descriptors covered	ERC8b: Wide dispersive indoor use of reactive substances in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or preparation

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	(charging/discharging) from/to ves-sels/large containers at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 1 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Both hands (960 cm ²)
Risk Management Measures	
Avoid splashing. Avoid contact with contaminated tools. Clean equipment and the work area every day.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.05 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	1.37 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 1 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	

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Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.05 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.69 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 1 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.05 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.69 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-

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	diyldivinylene)bis(benzenesulphonate) Content: >= 0 % - <= 1 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Hands and forearms (1500 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	10.7 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: >= 0 % - <= 1 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	Palm of both hands (480 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.05 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic

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Exposure estimate	1.37 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC19: Hand-mixing with intimate contact and only PPE available. Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 1 %
Physical state	Solid, liquid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	More than hands and forearms (1980 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.05 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	14.1 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

5. Short title of exposure scenario

Cleaning agents, maintenance

SU21; ERC8a, ERC8b; PC35

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk

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	characterization was performed.
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Contributing exposure scenario	
Use descriptors covered	ERC8b: Wide dispersive indoor use of reactive substances in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PC35: Washing and Cleaning Products (including solvent based products).
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0 % - <= 0.5 %
Exposure estimate and reference to its source	
Assessment method	Published data
	Consumer - combined, long-term - systemic
Exposure estimate	0.001 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1

6. Short title of exposure scenario

Service life of articles, (paper)

SU 3, SU 22; ERC11a; PROC21; AC8

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC11a: Wide dispersive indoor use of long-life articles and materials with low release As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PROC21: Low energy manipulation of substances bound in materials and/or articles Use domain: industrial
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate)

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	Content: $\geq 0\%$ - $\leq 0.2\%$
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	More than hands and forearms (1980 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.28 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC21: Low energy manipulation of substances bound in materials and/or articles Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: $\geq 0\%$ - $\leq 0.2\%$
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	More than hands and forearms (1980 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.3 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic

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Exposure estimate	0.28 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	AC8: Paper articles
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.1 % - <= 0.5 %
Physical state	solid, not dusty
Exposure estimate and reference to its source	
	According to Article 14(4) of the REACH Regulation (EC) No 1907/2006 a human-related exposure assessment and risk characterization is not required.

7. Short title of exposure scenario

Service life of articles, (leather, textile, fibers)

SU 3, SU 22; ERC11a, ERC11b; PROC21; AC5

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC11a: Wide dispersive indoor use of long-life articles and materials with low release As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	PROC21: Low energy manipulation of substances bound in materials and/or articles Use domain: industrial
Operational conditions	

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Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: $\geq 0\%$ - $\leq 0.2\%$
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	More than hands and forearms (1980 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.1 mg/m ³
Risk Characterization Ratio (RCR)	< 1
Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.28 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC21: Low energy manipulation of substances bound in materials and/or articles Use domain: professional
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) Content: $\geq 0\%$ - $\leq 0.2\%$
Physical state	Solid
Duration and Frequency of activity	> 240 min 5 days per week
Indoor/Outdoor	Indoor
Exposed skin area	More than hands and forearms (1980 cm ²)
Risk Management Measures	
Avoid splashing. Clean equipment and the work area every day. Avoid contact with contaminated tools.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0.3 mg/m ³
Risk Characterization Ratio (RCR)	< 1

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Assessment method	ECETOC TRA v2.0 Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0.28 mg/kg bw/day
Risk Characterization Ratio (RCR)	< 1
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	AC5-1: Fabrics, textiles and apparel: bedding and clothing.
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.1 % - <= 0.5 %
Physical state	solid, not dusty
Exposure estimate and reference to its source	
	According to Article 14(4) of the REACH Regulation (EC) No 1907/2006 a human-related exposure assessment and risk characterization is not required.

8. Short title of exposure scenario

Service life of articles, Cleaning agents, maintenance

SU21; ERC8a, ERC8b; AC0

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Wide dispersive indoor use of processing aids in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC8b: Wide dispersive indoor use of reactive substances in open systems As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	AC0: Other Articles:
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-

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	diyldivynylene)bis(benzenesulphonate) Content: >= 0.1 % - <= 0.5 %
Exposure estimate and reference to its source	
	According to Article 14(4) of the REACH Regulation (EC) No 1907/2006 a human-related exposure assessment and risk characterization is not required.

9. Short title of exposure scenario

Service life of articles, (leather, textile, fibers)

SU21; ERC10a, ERC11a; AC5

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC10a: Wide dispersive outdoor use of long-life articles and materials with low release As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	ERC11a: Wide dispersive indoor use of long-life articles and materials with low release As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

Contributing exposure scenario	
Use descriptors covered	AC5-1: Fabrics, textiles and apparel: bedding and clothing.
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.1 % - <= 0.5 %
Physical state	solid, not dusty
Exposure estimate and reference to its source	
	According to Article 14(4) of the REACH Regulation (EC) No 1907/2006 a human-related exposure assessment and risk characterization is not required.

10. Short title of exposure scenario

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Service life of articles, (paper)

SU21; ERC11a; AC8

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC11a: Wide dispersive indoor use of long-life articles and materials with low release As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Contributing exposure scenario	
Use descriptors covered	AC8: Paper articles
Operational conditions	
Concentration of the substance	Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivynylene)bis(benzenesulphonate) Content: >= 0.1 % - <= 0.5 %
Physical state	solid, not dusty
Exposure estimate and reference to its source	
	According to Article 14(4) of the REACh Regulation (EC) No 1907/2006 a human-related exposure assessment and risk characterization is not required.
