According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 1 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

SECTION 1: IDENTIFICATION OF SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Identification on the label / Trade name: Aromatic Polyester Polyol, Polyester Polyol, Neopolyol (NEOPOLYOL FR, NEOPOLYOL 240 FR).

CAS No.: N/A

EC No.: N/A

REACH registration No.: N/A

Polyester polyol is a polymer and exempted from Registration according to the Article 2 (9) of Regulation EC 1907/2006 REACH.

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

Production of Polyurethane.

Polyol for production of PU (polyurethane) or PIR (polyisocyanurate) foams (panels, sandwiches, tube layer insulation and spray foam and CASE).

Identified uses	Sector of Use	Chemical Product Category	Process Category	Article Category	Environmental Release Category
240FR. CASE - (Coatings, Adhesives, Sealants, Elastomers) (Industrial)	SU03 SU12	PC01 PC09a PC21 PC32	PROC01 PROC02 PROC03 PROC04 PROC05 PROC06 PROC07 PROC08a PROC08b PROC09 PROC10 PROC13 PROC14		ERC02 ERC03 ERC05
240FR. Formulation (Industrial)	SU03 SU10	PC32	PROC01 PROC02 PROC03 PROC04 PROC05 PROC06 PROC07 PROC08a PROC08b PROC09		ERC02 ERC03
240FR. Foam granules and rebound PUR foam (Industrial)	SU03	PC 32	PROC01 PROC02 PROC03 PROC04 PROC05 PROC08a		ERC01 ERC02 ERC03

Continued on next page

			PROC08b PROC09 PROC14 PROC21		
240FR. Rigid foam (Industrial)	SU03 SU12	PC32	PROC01 PROC02 PROC03 PROC04 PROC05 PROC07 PROC08a PROC08b PROC09 PROC19 PROC21		ERC02 ERC03 ERC05
240FR. CASE - Professional applications, including service life (Professional)	SU22	PC01 PC09a PC32	PROC05 PROC08a PROC08b PROC10 PROC11 PROC13	AC01 AC04	ERC08c ERC08f
240FR. Laboratory reagent (Professional)	SU22	PC21	PROC15		ERC08a
240FR. One-Component foam, including Service Life (Professional)	SU22	PC21	PROC10 PROC11 PROC21		ERC10a ERC11a
240FR. Rigid foam (Professional)	SU22	PC21	PROC05 PROC08a PROC10 PROC11 PROC21	AC01 AC02 AC13	ERC08c ERC08f

1.3 Details of the supplier of the safety data sheet:

Manufacturer UAB NEO GROUP
Industrijos st.2, LT—95346 Rimkai,
Klaipeda district,
LITHUANIA
Tel.:+370 46 466710
Fax: +370 46 466711
e-mail: msds@neogroup.eu
www.neogroup.eu

1.4 Emergency telephone numbers:

Continued on next page

Lithuanian Poison Control and Information Office:
+370 5 236 20 52 or +370 687 53378 (24h)
General emergency number: (+370) 112 (24h)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4	H302 Harmful if swallowed.
STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure. Affected Organs – kidney. Route of exposure – oral.
Eye Irrit. 2	H319 Causes serious eye irritation.

2.1.2 Additional information:

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements

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

Hazard Pictogram

GHS07: Exclamation mark

GHS08: Health hazard

Signal word **Warning**

Hazard statements

H302	Harmful if swallowed.
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repealed exposure. Affected Organs – kidney. Route of exposure – oral.

Precautionary Statements Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hand thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P314	Get medical advice/attention if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Continued on next page

P337+P313 If eye irritation persists: Get medical advice/attention.

Precautionary Statements Disposal

P501 Dispose of absorbed material in accordance with regulations.

2.3 Other hazards

Not applicable. The substance is not PBT / vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures

Hazardous components name	CAS No	EC No	Index No	REACH Registration No	Content, % (wt.)	Classification according to Regulation (EC) No 1278/2008 (CLP)
Polyester Polyol	N/A	N/A	N/A	N/A	70-90%	not classified as hazardous
Reaction product of propylene oxide and phosphorus oxychloride. main component: Tris(2-chloro-1-methylethyl) phosphate CAS 13674-84-5	N/A	911-815-4	N/A	01-2119486772-26-XXXX	0-20%	Acute Tox. 4, H302
Triethyl phosphate	78-40-0	201-114-5	015-013-00-7	01-2119492852-28-XXXX	0-5%	Acute Tox. 4, H302 Eye Irrit. 2, H319
Diethylene glycol (2,2'-oxybisethanol)	111-46-6	203-872-2	603-140-00-6	01-2119457857-21-XXXX	1-5%	Acute Tox. 4, H302 STOT RE 2, H373

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

Eyes: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.

Skin: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention. Clean shoes thoroughly before reuse.

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Seek medical attention.

Continued on next page

Ingestion: If the material swallowed, get immediate medical attention or advice.

4.2 Most important symptoms and effects, both acute and delayed

No future relevant information available

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact poison specialist immediately, if material swallowed.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Dry chemical, alcohol resistant foam, carbon dioxide, water fog.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition, which may be toxic and/or irritating. Combustion products may include and are not limited to: carbon monoxide, carbon dioxide, phosphorus oxide, halogenated compounds.

5.3 Advice for firefighters

Firefighters should wear full fire-fighting turn-out gear (full Bunker gear) including self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training.

Isolate spill or leak area immediately. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. Provide adequate ventilation

6.2 Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Contain spilled material if possible. Collect in suitable and properly labeled containers.

Small spills: Stop leak if without risk. Move containers from spill area. Absorb or cover with dry earth, sand or other inert dry material and transfer to appropriate waste disposal containers.

Large spills: Stop leak if without risk. Move containers from spill area. Dike ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other inert dry material or pump and transfer to appropriate waste disposal containers.

6.4 Reference to other sections

Continued on next page

Seccion 1 - for emergency contact information.
Section 8 - personal protection
Section 9 - chemical and physical properties
Section 13 - disposal

SECTION 7: HANDLING & STORAGE

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Keep ignition sources away – do not smoke. Protect against electrical charges.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container. Protect from frost and direct sunlight. Store in a dry and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Recommended storage temperature 25 ÷ 60°C. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s):

Not available

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits: The product does not contain any relevant quantities of the material with critical values that have to be monitored at the workplace. There is no occupational exposure limit value for diethylene glycol established by European Commission. The limit value according the national regulation on the maximum permissible concertation of diethylene glycol in the work environment is 45 mg/m^3 or 10 ppm as an 8-hour time-weighted average.

Exposure controls: Provide adequate ventilation.

Personal protection equipment:

Eye and face protection: Wear approved safety goggles.

Skin protection: Wear suitable protective clothing as protection against splashing or contamination.

Hand protection: Wear suitable protective clothing as protection against splashing or contamination.

Continued on next page

Respiratory protection: Respiratory protection may be needed for non-routine or emergency situations.

Environmental exposure controls: Avoid seepage into groundwater and drains. See Section 6.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Physical appearance	viscous liquid, color from yellow to brown
Odor	irritant
Odor threshold	no data available
Flash Point	>93.9˚C; (> 201 F)
Flamability (solid, gas)	Supporting combustion
Boiling Point	>240.6˚C; (465 F)
Melting point	Undetermined
Specific Gravity	1.2 g/ml; (10 lb/gal)
Vapour Density	Estimated heavier than air
Viscosity	1000-4000 mPas @ 25 (cP @ 25 C)
Evaporation Rate	Slower than ethyl ether
pH Value	3.8 in 14:1 Acetone/Water
Solubility	soluble in acetone and ethyl acetate
Upper/lower flammability or explosive limits	Undetermined
Partition coefficient n-octanol/water	Undetermined
Auto-ignition temperature	Undetermined
Decomposition temperature	Undetermined
Explosive properties	Undetermined
Oxidising properties	Undetermined

SECTION 10: STABILITY & REACTIVITY

Reactivity: Slightly chemically reactive substance
Chemical Stability: stable under normal conditions. Hygroscopic substance.
Possibility of hazardous reactions: not applicable
Condition to avoid: strong oxidizing agents.
Incompatible materials: strong oxidizing agents.
Hazardous decomposition products: combustion products as carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

No experimental toxicological data on the mixture. This health risk assessment is based on data available on diethylene glycol, reaction product of propylene oxide and phosphorus oxychloride and triethyl phophate components.

Diethylene glycol	**Reaction product of propylene oxide and phosphorus oxychloride**	**Triethyl phosphate**
Acute toxicity oral:		

Continued on next page

LD50: 19600 mg/kg bw (rat male); LD50: 16500 mg/kg bw (rat male/female); LD50: 1120 mg/kg bw	LD50: 632 mg/kg (rat female) LD50: 500 – 2000 mg/kg (rat male)	LD50: 1600 mg/g (rat)
Acute toxicity inhalation:		
LC50 (4 h): > 4.6 mg/L air (No animals died during the 14-day observation period). The LC50 for the test item as aerosol was above 4.6 mg/L, which was the maximum attainable concentration.	LC50 (4h): >7 mg/l (rat)	LC50 (4h): 8.82mg/L (rat)
Acute toxicity dermal:		
LD50: 13300 mg/kg bw (rabbit). For the dermal route of exposure, classification is not needed.	LD50: >2000 mg/kg (rat male)	LD50: 20 000 mg/kg (rabbit)
Skin corrosion/irritation:		
not irritating	Not irritating (Rabbit)	not irritating
Serious eye damage/irritation:		
In animal studies, (Draize Test - rabbits - 0.5 ml), there was no eye irritation.	No known significant effects or critical hazards	Moderate irritant
Respiratory or skin sensitization:		
the substance is not classified as hazardous in this class.	the substance is not classified as hazardous in this class	Not sensitizing
mutagenicity:		
the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class
carcinogenicity:		
the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class
reproductive toxicity:		
the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class
STOT-repeated exposure:		
STOT RE 2 with regard to oral exposure. Target organ – kidney.	the substance is not classified as hazardous in this class	the substance is not classified as hazardous in this class
Aspiration hazard: not available		

SECTION 12: ECOLOGICAL INFORMATION

No experimental toxicological data on the mixture. This risk assessment is based on data available on diethylene glycol, reaction product of propylene oxide and phosphorus oxychloride and triethyl phophate components.

12.1 Toxicity

Diethylene glycol	**Reaction product of propylene oxide and phosphorus oxychloride**	**Triethyl phosphate**
Acute (short-term) toxicity:		
Fish: Pimephales promelas LC50 (96 h) - 75200mg/L test mat (nominal)	*Pimephales promelas* LC50 (96 h) - 51 mg/l	*Pimephales promelas* LC50 (96 h) > 100 mg/L test mat (nominal)
Crustacea: Daphania – Daphnia	*Daphania – Daphnia magna*	*Daphania – Daphnia magna*

Continued on next page

magna EC50 (24h) - >10000 mg/L	EC50 (48h) – 131 mg/l	EC50 (24h) - 900 mg/L
Algae/aquatic plants: With high probability the test substance is acutely not harmful to aquatic algae	Algae – *Pseudokirchneriella Subcapitata* IC50 (72 h) – 82 mg/L	Algae - Scenedesmus subspicatus IC50 (72h) – 901 mg/l
Other organisms: not available		
Chronic (long-term) toxicity:		
Fish: Pimephales promelas NOEC (7d.): 15380 mg/L, LC50 (28 d.): >1500 mg/L	*Pimephales promelas* NOEC (96h.): 9,8 mg/l	not available
Crustacea: not available	*Daphania – Daphnia magna* NOEC (21d.): 40 mg/L	*Daphania – Daphnia magna* NOEC (21d.): 31.6 mg/L
Algae/aquatic plants: With high probability, the test substance is acutely not harmful to aquatic algae	Algae – *Pseudokirchneriella Subcapitata* NOEC (72 h) – 13 mg/L	not available
Other organisms: not available		

12.2 Persistence and degradability

Diethylene glycol	**Reaction product of propylene oxide and phosphorus oxychloride**	**Triethyl phosphate**
Abiotic Degradation: not available	not available	not available
Biodegradation: not available	not available	not available
Physical- and photo-chemical elimination: 50%; 0.72 d	not available	not available

12.3 Bioaccumulative potential: low

Diethylene glycol	**Reaction product of propylene oxide and phosphorus oxychloride**	**Triethyl phosphate**
Partition coefficient n-octanol /water (logPow): -1.98	Not available	1,11
Bioconcentration factor (BCF): 100	0,8 - 14	<1.3

12.4 Mobility in soil: Not available

12.5 Results of PBT and vPvB assessment: Not applicable. The substances are not PBT / vPvB.

12.6 Other adverse effects: Not applicable.

AOX: some components contain organically bound halogens and can contribute to the AOX value in waste water.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal: The generation of the waste should be avoided or minimized wherever possible. Disposal of this product should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials, additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.

Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its containers must be disposed of a safe way. Care should be taken, when handling emptied containers, which have not been cleaned or rinsed out. Empty containers may

Continued on next page

retain some product residues. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers. Waste codes / waste designations according to LoW: proposed waste codes 16 05 08 (16 - other wastes from industry, 05 -gases in pressure containers and discarded chemical, 08 - discarded organic chemical consisting of or containing hazardous substances) or 16 03 05 (16 - other wastes from industry, 03 – off-specification batches and unused products, 05 – organic wastes containing hazardous substances).

SECTION 14: TRANSPORT INFORMATION

The product is not covered by international regulations on the transport of dangerous goods.
UN number: Not hazardous for transport
UN Proper Shipping Name: Not hazardous for transport
Transport Hazard Class: Not hazardous according the transport rules IMO, ADR/RID, ICAO
Packing group: Not hazardous according the transport rules IMO, ADR/RID, ICAO
Environmental hazards: Not hazardous according the transport rules IMO, ADR/RID, ICAO
Special precautions for user: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to Annex II of MARPOL 73/78 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 for all EU Member states:

- *Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006. Concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency with following amendments.*
- *Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008. On classification, labeling and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006.*
- *Regulation (EU) No 453/2010 of the Commission of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).*
- *Regulation (EC) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)*
- *Regulation (EC) 649/2012 of the European Parliament and of the Council of 4 July 2012. Concerning the export and import of hazardous chemicals.*
- *European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)*

Authorisations and/or restrictions on use:

- *Substances of very high concern (SVHC) according to Article 59(10) of the REACH Regulation*

Other EU regulations:

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 11 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

SECTION 16: OTHER INFORMATION

Information on MSDS updates:

Version 1.0: initial issue 14-10-2011

Version 2.0: Changes from the previous version: section 1-16

Version 3.0: Changes from the previous version: section 1-16

Relevant phrases:

H302 Harmful if swallowed.

H319 Causes serious eye irritation

H373 May cause damage to organs through prolonged or repeated exposure. Affected Organs – kidney. Route of exposure – oral.

Abbreviations and acronyms:

SDS	Safety data sheet
CAS	Chemical Abstracts Service (Division of the American Chemical Society)
EC	European Commission
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation EC 1907/2006
CLP	Classification, Labelling and Packaging Regulation EC 1272/2008
PBP	Persistent, Bioaccumulative and Toxic
vPvB	Very Persistent and very Bioaccumatalive
STOT RE	Specific Target Organ Toxicity repeated exposure
logPow	octanol-water partition coefficient
LCxx	Lethal Concentration, for xx percent of test population
LDxx	Lethal Dose, for xx percent of test population.
N/A	Not available
PU	polyurethane
PIR	polyisocyanurate
GHS	Globally Harmonized System
LoW	List of Waste
NOEC	No Observed Effect Concentration
UN	United Nations
BCF	Bioconcentration factor
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO	International Maritime Organization
RID	Règlement Concernant le Transport International Ferroviaire Marchandises Dangereuses (transport of dangerous goods by rail)
ICAO	International Civil Aviation Organization
AOX	Halogenated organic compounds
Wording of the instructions for use according to Use Descriptor System, to which reference is made in paragraph 1:	
AC01	Vehicles
AC02	Machinery, mechanical appliances, electrical/electronic
AC04	Stone, plaster, cement, glass and ceramic articles
AC05	Fabrics, textiles and apparel
AC07	Metal articles
AC11	Wood articles
AC13	Plastic articles
ERC02	Formulation of preparations
ERC03	Formulation in materials

Continued on next page

ERC04	Industrial use of processing aids in processes and
ERC05	Industrial use resulting in inclusion into or onto a matrix
ERC08a	Wide dispersive indoor use of processing aids in open systems
ERC08b	Wide dispersive indoor use of reactive substances in open systems
ERC08c	Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC08f	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	Wide dispersive indoor use of long-life articles and materials with low release
PC01	Adhesives, sealants
PC09a	Coatings and paints, thinners, paint removers
PC21	Laboratory chemicals
PC32	Polymer preparations and compounds
PROC01	Use in closed process, no likelihood of exposure
PROC02	Use in closed, continuous process with occasional controlled exposure
PROC03	PROC03 Use in closed batch process (synthesis or formulation)
PROC04	PROC04 Use in batch and other process (synthesis) where opportunity for exposure arises
PROC05	PROC05 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC06	Calendering operations
PROC07	Industrial spraying
PROC08a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC08b	PROC08b Transfer of substance or preparation(charging/discharging) from/to vessels/large containers at dedicated facilities
PROC09	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10	Roller application or brushing
PROC11	Non industrial spraying
PROC13	Treatment of articles by dipping and pouring
PROC14	Production of preparations or articles by tabletting, compression, extrusion, pelletisation
PROC15	Use as laboratory reagent
PROC19	Hand-mixing with intimate contact and only PPE
PROC21	Low energy manipulation of substances bound in materials and/or articles
SU03	Industrial uses: Uses of substances as such or in preparations at industrial sites
SU10	Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU12	Manufacture of plastics products, including compounding and conversion
SU21	Consumer uses: Private households (= general public = consumers)
SU22	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

This information is based upon the present state of our knowledge. 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 it is specified in the text.

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 13 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. CASE (Coatings, Adhesives, Sealants, Elastomers) (Industrial)
List of use descriptors	Identified use name: 240FR. CASE (Coatings, Adhesives, Sealants, Elastomers) (Industrial) Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14 Substance supplied to that use in form of: As such Sector of end use: SU03, SU12 Subsequent service life relevant for that use: No. Environmental Release Category: ERC02, ERC03, ERC05 Market sector by type of chemical product: PC01, PC09a, PC21, PC32
Name of contributing environmental scenario and corresponding ERC	See ES rigid foam Industry application
List of names of contributing worker scenarios and corresponding PROCs	PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: See ES rigid foam Industry application.

Contributing exposure scenario controlling worker exposure for : -PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14

Product Characteristics	Vapour pressure: < 0.0001 hPa. (25 °C)
Concentration of substance in mixture or article	≤ 30%
Physical state	liquid , solid
Dust	Not applicable.
Amounts used	Not relevant
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: 8 h (full shift).
Other given operational conditions affecting workers exposure	Indoor use Use at room temperature
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation required. (PROC04, PROC05, PROC06,PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14)

Continued on next page

Organisational measures to prevent/limit releases, dispersion and exposure	Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised

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

Personal protection	Wear protective clothing as described in section 8. Wear gloves as described in section 8.

Exposure estimation and reference to its source - Environment: See ES rigid foam Industry application

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: See ES rigid foam Industry application.

Exposure assessment (environment):	Amount has been added to ES rigid foam - industrial applications (80 %) and ES rigid foam - professional application (20 %)
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.

Exposure estimation and reference to its source - Workers: -PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14

Exposure assessment (human):	ECETOC TRA (04/2010)
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Not applicable.
Health	Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Additional good practice advice beyond the REACH CSA

Environment	Not available.
Health	Not available.

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 15 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. Formulation (Industrial)
List of use descriptors	Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09 Substance supplied to that use in form of: As such Sector of end use: SU03, SU10 Subsequent service life relevant for that use: No. Environmental Release Category: ERC02, ERC03 Market sector by type of chemical product: PC32
Name of contributing environmental scenario and corresponding ERC	ERC02, ERC03
List of names of contributing worker scenarios and corresponding PROCs	PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: See ES rigid foam Industry application.

Contributing exposure scenario controlling worker exposure for : -PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14

Product Characteristics	Vapour pressure: < 0.0001 hPa. (25 °C)
Concentration of substance in mixture or article	≤ 30%
Physical state	liquid , solid
Dust	Not applicable.
Amounts used	22975 t/a
Frequency and duration of use	Exposure duration per year: 300 d
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. If receiving surface water flow is (m^3/d): 18 000. Local marine water dilution factor: 100.
Other given operational conditions affecting workers exposure	Indoor use
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques. Floor should be impervious, resisting to liquid and easy to clean.
Organisational measures to prevent/limit release from site	Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised
Conditions and measures related to municipal sewage treatment plant	Size of sewage treatment plant (m^3/d): 2000

Continued on next page

Conditions and measures related to external treatment of waste for disposal	General information on waste disposal see section 13.
Conditions and measures related to external recovery of waste	Not applicable

Contributing exposure scenario controlling worker exposure for : -PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	100%
Physical state	Liquid
Dust	Not applicable
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: 8 h (full shift).
Other given operational conditions affecting workers exposure	Indoor use. Use at ambient temperature
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation required. (PROC04, PROC05, PROC08a, PROC08b, PROC09)
Organisational measures to prevent/limit releases, dispersion and exposure	Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised.

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

Personal protection	Wear protective clothing as described in section 8. Wear gloves as described in section 8.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: See ES rigid foam Industry application.

Exposure assessment (environment):	EUSES (v2.1) with setting from EU RAR (2008) A1a, A2, A3, A4
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.

Exposure estimation and reference to its source - Workers: -PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09

Exposure assessment (human):	ECETOC TRA (04/2010)
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is < 1.
Health	Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Additional good practice advice beyond the REACH CSA

Continued on next page

Environment	Not available.
Health	The use of gloves is recommended for this process.

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 18 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. Foam granules and rebound PUR foam (Industrial)
List of use descriptors	Identified use name: 240FR. Foam granules and rebound PUR foam (Industrial)Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC21 Substance supplied to that use in form of: As such Sector of end use: SU03 Subsequent service life relevant for that use: No. Environmental Release Category: ERC02, ERC03, ERCO4 Market sector by type of chemical product: PC32
Name of contributing environmental scenario and corresponding ERC	ERC02, ERC03, ERC04
List of names of contributing worker scenarios and corresponding PROCs	PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: ERC02, ERC03, ERC04

Product Characteristics	Liquid. Vapour pressure: < 0.0001 hPa. (25 °C)
Concentration of substance in mixture or article	≤ 30%
Physical state	liquid , solid
Dust	Not applicable.
Amounts used	Q 1 Rebounding : 802 t/a Q 1 Adheisive pressing : 449 t/a R 1 Recycling : 344 t/a
Frequency and duration of use	Exposure duration per year: 300 d
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. If receiving surface water flow is (m^3/d): 18 000. Local marine water dilution factor: 100.
Other given operational conditions affecting workers exposure	Indoor use
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	Granulation and rebounding should be contained. Granulation machines should be equipped with dust extraction equipment.
Risk management measures - Water	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques.

Continued on next page

Organisational measures to prevent/limit release from site	Not applicable
Conditions and measures related to municipal sewage treatment plant	Size of sewage treatment plant (m^3/d): 2000
Conditions and measures related to external treatment of waste for disposal	Not applicable.
Conditions and measures related to external recovery of waste	Not applicable

Contributing exposure scenario controlling worker exposure for : PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	2-30%
Physical state	Liquid
Dust	Dustiness: low
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: 8 h (full shift).
Human factors not influenced by risk management	Body weight: 65 kg (Workers)
Other given operational conditions affecting workers exposure	Indoor use. Use at ambient temperature
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation required. (PROC08a, PROC08b, PROC09, PROC21)
Organisational measures to prevent/limit releases, dispersion and exposure	Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised.

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

Personal protection	Wear protective clothing as described in section 8. Wear gloves as described in section 8.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: -ERC02, ERC03, ERC04.

Exposure assessment (environment):	EUSES (v2.1) with setting from EU RAR (2008) Q1, R1
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.

Exposure estimation and reference to its source - Workers: - PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Exposure assessment (human):	ECETOC TRA (04/2010)
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe.

Continued on next page

	Other conditions should only be considered when measurements or suitable calculations show that the RCR is < 1.
Health	Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Additional good practice advice beyond the REACH CSA

Environment	Not available.
Health	For manual cutting or bagging suitable gloves should be used

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 21 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. Rigid foam (Industrial)
List of use descriptors	Identified use name: 240FR. Rigid foam (Industrial)Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21 Substance supplied to that use in form of: As such Sector of end use: SU03, SU12 Subsequent service life relevant for that use: No. Environmental Release Category: ERC02, ERC03, ERCO5 Market sector by type of chemical product: PC32
Name of contributing environmental scenario and corresponding ERC	ERC02, ERC03, ERC05
List of names of contributing worker scenarios and corresponding PROCs	PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: ERC02, ERC03, ERC05

Product Characteristics	Liquid. Vapour pressure: < 0.0001 hPa. (25 °C)
Concentration of substance in mixture or article	≤ 30%
Physical state	liquid , solid
Dust	Not applicable.
Amounts used	C1: 8 983.6 t/a C2: 21 000 t/a
Frequency and duration of use	Exposure duration per year: 300 d
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. If receiving surface water flow is (m^3/d): 18 000. Local marine water dilution factor: 100.
Other given operational conditions affecting workers exposure	Indoor use
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques. Local exhaust ventilation required. Floor should be impervious, resisting to liquid and easy to clean.
Risk management measures - Water	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques.
Organisational measures to prevent/limit	No water is used for equipment cleaning.

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release from site

Conditions and measures related to municipal sewage treatment plant	Size of sewage treatment plant (m³/d): 2000
Conditions and measures related to external treatment of waste for disposal	General information on waste disposal see section 13.
Conditions and measures related to external recovery of waste	Not applicable

Contributing exposure scenario controlling worker exposure for : PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	Liquid
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: >4 h
Human factors not influenced by risk management	Not available
Other given operational conditions affecting workers exposure	Indoor use. Process may involve high temperature. Up to (120 - 140 °C)
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation required. (PROC08a, PROC08b, PROC09, PROC21)
Organisational measures to prevent/limit releases, dispersion and exposure	Due to the nature of the foam the inherent air bubbles keep volatile compounds in the foam to slow down release. Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised.

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

Personal protection	Wear protective clothing as described in section 8. Wear gloves as described in section 8.
Respiratory protection	In case of spraying, respiratory protection should be used (type A fliter class 1 or 2 and / or particulate filter P2 or P3) as described in section 8.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: -ERC02, ERC03, ERC05.

Exposure assessment (environment):	EUSES (v2.1) with setting from EU RAR (2008) C1, C2. The calculations were done considering half the amount of CASE industry application ES.
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.

Exposure estimation and reference to its source - Workers: PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Exposure assessment (human):	ECETOC TRA (04/2010)

Continued on next page

Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is < 1.
Health	Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Additional good practice advice beyond the REACH CSA

Environment	Not available.
Health	The use of gloves is recommended for this process

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 24 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. CASE - Professional applications, including service life. (Professional)
List of use descriptors	Identified use name: 240FR. CASE - Professional applications, including service life. (Professional). Process Category: PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13 Substance supplied to that use in form of: As such Sector of end use: SU22 Subsequent service life relevant for that use: Yes. Environmental Release Category: ERC08c, ERC08f Market sector by type of chemical product: PC01, PC09a, PC32 Article category related to subsequent service life: AC01, AC04
Name of contributing environmental scenario and corresponding ERC	-ERC08a, ERC08f. Please refer to ES one-component foam professional use
List of names of contributing worker scenarios and corresponding PROCs	-PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13
Additional information	ERC only for communication purposes.

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: ERC08a, ERC08f. Please refer to ES one-component foam-professional use

Contributing exposure scenario controlling worker exposure for : PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	Liquid
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: 8 h (full shift)
Human factors not influenced by risk management	Not available
Other given operational conditions affecting workers exposure	Outdoor setting
Organisational measures to prevent/limit releases, dispersion and exposure	Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised.

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

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Personal protection	Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. If concentration is > 15 % and aerosols can be formed. See Section 8 for information on appropriate personal protective equipment.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: - -ERC08a, ERC08f. Please refer to ES one-component foam-professional use.

Exposure assessment (environment):	Amount has been added to ES one-component foam. (Professional)
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.

Exposure estimation and reference to its source - Workers: PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13

Exposure assessment (human):	ECETOC TRA (04/2010)
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is < 1.
Health	Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Additional good practice advice beyond the REACH CSA

Environment	Not available.
Health	Not available

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 26 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. Laboratory reagent
List of use descriptors	Identified use name: 240FR Laboratory reagent. Process Category: PROC15 Substance supplied to that use in form of: As such Sector of end use: SU22 Subsequent service life relevant for that use: No. Environmental Release Category: ERC08a, ERC08b Market sector by type of chemical product: PC31
Name of contributing environmental scenario and corresponding ERC	ERC08a, ERC08b
List of names of contributing worker scenarios and corresponding PROCs	PROC15

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: ERC08a, ERC08b

Product Characteristics	Liquid. Vapour pressure: < 0.0001 hPa. (25 °C)
Concentration of substance in mixture or article	100%
Physical state	liquid
Dust	Not applicable.
Amounts used	<1 kg
Frequency and duration of use	Exposure duration per year: 300 d
Environmental factors not influenced by risk management	Not applicable
Other given operational conditions affecting workers exposure	Indoor use. Intermittent release.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques. Local exhaust ventilation required. Floor should be impervious, resisting to liquid and easy to clean.
Risk management measures - Water	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques.
Organisational measures to prevent/limit release from site	No water is used for equipment cleaning.
Conditions and measures related to municipal sewage treatment plant	Size of sewage treatment plant (m^3/d): 2000

Continued on next page

Conditions and measures related to external treatment of waste for disposal	General information on waste disposal see section 13.
Conditions and measures related to external recovery of waste	Not applicable

Contributing exposure scenario controlling worker exposure for: PROC01. PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC19, PROC21

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	Liquid
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: 8 h (full shift)
Human factors not influenced by risk management	Not available
Other given operational conditions affecting workers exposure	Indoor use. Intermittent contact is expected. Direct contact to the substance should be avoided
Technical conditions and measures to control dispersion from source towards the worker	Not applicable
Organisational measures to prevent/limit releases, dispersion and exposure	Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised.

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

Personal protection	Wear protective clothing as described in section 8. Wear gloves as described in section 8.
Respiratory protection	In case of spraying, respiratory protection should be used (type A fliter class 1 or 2 and / or particulate filter P2 or P3) as described in section 8.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: -ERC08a, ERC08b

Exposure assessment (environment):	Qualitative estimation.
Exposure estimation	No or negligible emissions to the environment

Exposure estimation and reference to its source - Workers: PROC15

Exposure assessment (human):	ECETOC TRA (04/2010) Manual Calculation method
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is < 1.
Health	Gloves should be worn. Wear eye protection

Continued on next page

Additional good practice advice beyond the REACH CSA

Environment Not available.

Health Not applicable.

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 29 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. One-Component foam, including Service Life. (Professional)
List of use descriptors	Identified use name: 240FR. One-Component foam, including Service Life. (Professional) Process Category: PROC10, PROC11, PROC21 Substance supplied to that use in form of: As such Sector of end use: SU22 Subsequent service life relevant for that use: Yes. Environmental Release Category: ERC10a, ERC11a
Name of contributing environmental scenario and corresponding ERC	ERC10a, ERC11a
List of names of contributing worker scenarios and corresponding PROCs	-PROC10, PROC11, PROC21

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: ERC10a, ERC11a

Product Characteristics	Liquid. Vapour pressure: < 0.0001 hPa. (25 °C)
Concentration of substance in mixture or article	≤ 30%
Physical state	liquid , solid
Dust	Not applicable.
Amounts used	2 135 t/a
Frequency and duration of use	Exposure duration per year: 365 d
Environmental factors not influenced by risk management	Local freshwater dilution factor: 10. If receiving surface water flow is (m³/d): 18 000. Local marine water dilution factor: 100.
Other given operational conditions affecting workers exposure	Indoor use
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques. Local exhaust ventilation required. Floor should be impervious, resisting to liquid and easy to clean.
Risk management measures - Water	The waste water has to be directed to a dedicated sewage treatment plant or treated by other suitable techniques.
Organisational measures to prevent/limit release from site	No water is used for equipment cleaning.
Conditions and measures related to municipal sewage treatment plant	Size of sewage treatment plant (m³/d): 2000

Continued on next page

Conditions and measures related to external treatment of waste for disposal	General information on waste disposal see section 13.
Conditions and measures related to external recovery of waste	Not applicable

Contributing exposure scenario controlling worker exposure for : PROC10, PROC11, PROC21

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	Liquid
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 230 d Exposure duration per day: 8 h(full shift)
Human factors not influenced by risk management	Body weight: 65 kg (Workers)
Other given operational conditions affecting workers exposure	Outdoor setting
Technical conditions and measures to control dispersion from source towards the worker	Not applicable
Organisational measures to prevent/limit releases, dispersion and exposure	Not applicable

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

Personal protection	Wear protective clothing as described in section 8. Wear respiratory protection. (PROC11) If concentration is > 15 % and aerosols can be formed. Wear protective gloves.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: - ERC10a, ERC11a

Exposure assessment (environment):	EUSES (v2.1) with setting from EU RAR (2008) C1, C2. The calculations were done considering half the amount of CASE industry application ES.
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.

Exposure estimation and reference to its source - Workers: -PROC10, PROC11, PROC21

Exposure assessment (human):	ECETOC TRA (04/2010) and ConsExpo 4.1
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is < 1.
Health	Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Continued on next page

Additional good practice advice beyond the REACH CSA

Environment	Not applicable.
Health	Not applicable

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 32 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. Rigid foam (Professional)
List of use descriptors	Identified use name: 240FR. Rigid foam (Professional)Process Category: PROC05, PROC08a, PROC10, PROC11, PROC21 Substance supplied to that use in form of: As such Sector of end use: SU22 Subsequent service life relevant for that use: Yes. Environmental Release Category: ERC08c, ERC08f Article category related to subsequent service life: AC01, AC02, AC13
Name of contributing environmental scenario and corresponding ERC	Not relevant
List of names of contributing worker scenarios and corresponding PROCs	PROC05, PROC08a, PROC10, PROC11, PROC21

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: not relevant

Contributing exposure scenario controlling worker exposure for : PROC05, PROC08a, PROC10, PROC11, PROC21

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	Liquid
Amounts used	Not applicable
Frequency and duration of use	Exposure duration per year: 265 d Exposure duration per day: 4-12 h
Human factors not influenced by risk management	Not available
Other given operational conditions affecting workers exposure	Indoor setting / Outdoor setting
Organisational measures to prevent/limit releases, dispersion and exposure	Due to the nature of the foam the inherent air bubbles keep volatile compounds in the foam to slow down release. Only properly trained and authorised personnel shall handle the substance. Substance-handling procedures shall be well documented and strictly supervised.

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

Personal protection	Wear protective clothing as described in section 8. Wear gloves as described in section 8. (PROC05, PROC08a, PROC10, PROC21) Wear respiratory protection. (PROC11) If concentration is > 15 % and aerosols can be formed.

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See Section 8 for information on appropriate personal protective equipment.

Section 3 - Exposure estimation and reference to its source

Website Not available

Exposure estimation and reference to its source - Environment: -not relevant.

Exposure assessment (environment): Not applicable. No or negligible emissions to the environment.

Exposure estimation Not applicable.

Exposure estimation and reference to its source - Workers: PROC05, PROC08a, PROC10, PROC11, PROC21

Exposure assessment (human): ECETOC TRA (04/2010)

Exposure estimation The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment Non applicable

Health Under the above listed conditions, the process is deemed safe. Other conditions should only be considered when measurements or suitable calculations show that the RCR is <1.

Additional good practice advice beyond the REACH CSA

Environment Non applicable.

Health Non applicable

Continued on next page

According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 34 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. One-component foam, including service life. (Consumer)
List of use descriptors	Identified use name: 240FR. One-component foam, including service life. (Consumer) Substance supplied to that use in form of: As such Sector of end use: SU21 Subsequent service life relevant for that use: Yes. Environmental Release Category: ERC10a, ERC11a Market sector by type of chemical product: PC32
Name of contributing environmental scenario and corresponding ERC	- ERC10a, ERC11a
Health Contributing scenarios	One-component foam - Consumer use, including service life

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: - ERC10a, ERC11a

Product Characteristics	Liquid Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	30%
Amounts used	Non applicable
Frequency and duration of use	365 d/a

Contributing exposure scenario controlling consumer exposure for : One-component foam - Consumer use, including service life

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	Liquid
Amounts used	Not applicable
Frequency and duration of use	Exposure frequency 1/5 a
Human factors not influenced by risk management	Body weight: 65 kg
Other given operational conditions affecting workers exposure	Indoor setting / Outdoor use
Conditions and measures related to information and behavioural advice to consumers	Consumers should vent the room after application

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

Personal protection	Wear gloves as described in section 8.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: - ERC10a, ERC11a

Continued on next page

Exposure assessment (environment):	Qualitative estimation / Expert judgement
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.
Exposure assessment (environment):	Not applicable. No or negligible emissions to the environment.
Exposure estimation	Not applicable.

Exposure estimation and reference to its source - Consumers: One-component foam – Consumer use, including service life

Exposure assessment (human):	ConsExpo 4.1
Exposure estimation	The calculated individual and combined (dermal and inhalation) exposure values are below the DNELs (RCR < 1).

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment	Under the above listed conditions the process is deemed safe.
Health	Under the above listed conditions the process is deemed safe.

Additional good practice advice beyond the REACH CSA

Environment	Non applicable.
Health	Non applicable

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According to Regulation (EC) No 1907/2006 (REACH)	Sheet consists 36 of 37 pages Printing date: January 11, 2016 Version: 3.0-EN Revision date: January 11, 2016

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Multi-constituent substance

Product name : 240FR

Section 1 - Title

Short title of the exposure scenario	240FR. Rigid foam - Service Life (Consumer))
List of use descriptors	Identified use name: 240FR. Rigid foam - Service Life (Consumer) Substance supplied to that use in form of: As such Sector of end use: SU21 Subsequent service life relevant for that use: Yes. Environmental Release Category: ERC10a, ERC11a Article category related to subsequent service life: AC01, AC02, AC07, AC11, AC13
Name of contributing environmental scenario and corresponding ERC	- ERC10a, ERC11a
Health Contributing scenarios	Rigid foam - Service life

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for: - ERC10a, ERC11a

Product Characteristics	Liquid Vapour pressure: <0.0001 hPa (25 °C)
Amounts used	Non relevant
Frequency and duration of use	365 d/a Exposure duration per day 4-12 h.
Other operational conditions of use affecting	Indoor use. Substance is securely encapsulated in matrix.

Contributing exposure scenario controlling consumer exposure for : Rigid foam - service life

Product Characteristics	Vapour pressure: <0.0001 hPa (25 °C)
Concentration of substance in mixture or article	<30%
Physical state	solid

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

Personal protection	Wear gloves as described in section 8.

Section 3 - Exposure estimation and reference to its source

Website	Not available

Exposure estimation and reference to its source - Environment: - ERC10a, ERC11a

Exposure assessment (environment):	Qualitative estimation / Expert judgement
Exposure estimation	The predicted exposure concentrations for air, the aquatic and the terrestrial environment are below derived PNEC values, resulting in RCRs < 1.
Exposure assessment (environment):	Not applicable. No or negligible emissions to the environment.
Exposure estimation	Not applicable.

Exposure estimation and reference to its source - Consumers: Rigid foam - service life

Continued on next page

Exposure assessment (human): A chamber test was performed.

Exposure estimation No consumer exposure detected.

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment Under the above listed conditions the process is deemed safe.

Health Under the above listed conditions the process is deemed safe.

Additional good practice advice beyond the REACH CSA

Environment Non applicable.

Health Non applicable

End of safety data sheet