

**Styrene Tar**

Version 1.5

Revision Date 2021-10-13

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1****Product information**

Product Name : Styrene Tar

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

Company : Jubail Chevron Phillips Company
P.O. Box 11221
Jubail Industrial City
Saudi Arabia 31961

SDS Requests: (800) 852-5530
Responsible Party: Product Safety Group
Email:sds@cpchem.com

Local : Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Responsible Party: Product Safety Group
Email:sds@cpchem.com

1.4**Emergency telephone:****Health:**

866.442.9628 (North America)
1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Responsible Department : Product Safety and Toxicology Group
 E-mail address : SDS@CPChem.com
 Website : www.CPChem.com

SECTION 2: Hazards identification**2.1****Classification of the substance or mixture
REGULATION (EC) No 1272/2008**

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 1B	H360Df: May damage the unborn child. Suspected of damaging fertility.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :    

Signal Word : Danger

Hazard Statements	:	H226	Flammable liquid and vapor.
		H302	Harmful if swallowed.
		H304	May be fatal if swallowed and enters airways.
		H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H319	Causes serious eye irritation.
		H351	Suspected of causing cancer.
		H360Df	May damage the unborn child. Suspected of damaging fertility.
		H373	May cause damage to organs through prolonged or repeated exposure.
		H410	Very toxic to aquatic life with long lasting effects.

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Precautionary Statements	:	Prevention:	
		P201	Obtain special instructions before use.
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
		P273	Avoid release to the environment.
		P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
		Response:	
		P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
		P308 + P313	IF exposed or concerned: Get medical advice/ attention.
		P331	Do NOT induce vomiting.
		P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
		P391	Collect spillage.

Hazardous ingredients which must be listed on the label:

- 68608-82-2 Benzene, ethylenated by-products (Polyethylbenzene)
- 100-42-5 Styrene
- 88-85-7 Dinitro-butylphenol (DNBP)
- 91-20-3 Naphthalene
- 98-29-3 4-tert-Butylcatechol

Additional Labeling:

Restricted to professional users.

SECTION 3: Composition/information on ingredients**3.1 - 3.2****Substance or Mixture**

Synonyms : S-Chem Styrene Tar
Wiped Film Evaporator (WFE; X-3351) bottoms stream
Styrene tar containing styrene polymer, high boilers, inhibitors and PEB Flux oil

Molecular formula : UVCB

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
Polystyrene	9003-53-6 500-008-9		0 - 30
Stilbenes	588-59-0 209-621-3	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0 - 20

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Diphenylmethane	101-81-5 202-978-6	Aquatic Chronic 4; H413	0 - 11
Phenanthrene	85-01-8 201-581-5	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Aquatic Chronic 1; H410	0 - 10
1,2-diphenylethane	103-29-7 203-096-4		0 - 20
α -Methylstyrene	98-83-9 202-705-0 601-027-00-6	Flam. Liq. 3; H226 Eye Irrit. 2; H319 STOT SE 3; H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	0 - 10
Styrene	100-42-5 202-851-5 601-026-00-0	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 Aquatic Chronic 3; H412 Repr. 2; H361d STOT SE 3; H335 STOT RE 1; H372 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	0 - 7
Benzene, ethylenated by-products (Polyethylbenzene)	68608-82-2 271-802-8	Skin Irrit. 2; H315 Skin Sens. 1B; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0 - 10
Divinylbenzene	1321-74-0 215-325-5	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 2; H411	0 - 1
Naphthalene	91-20-3 202-049-5 601-052-00-2	Flam. Sol. 2; H228 Acute Tox. 4; H302 Carc. 2; H351 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0 - 3
1- Propenylbenzene	873-66-5 212-848-0	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Asp. Tox. 1; H304	0 - 3
4-tert-Butylcatechol	98-29-3 202-653-9	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0 - 0,2
2-Phenyl-naphthalene	612-94-2	Aquatic Acute 1; H400	0 - 3

Styrene Tar

Version 1.5

Revision Date 2021-10-13

	210-324-6	Aquatic Chronic 1; H410	
Dinitro-butylphenol (DNBP)	88-85-7 201-861-7 609-025-00-7	Acute Tox. 3; H301 Acute Tox. 3; H311 Eye Irrit. 2; H319 Repr. 1B; H360Df Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0 - 4
Hydroxypropyl hydroxyamine	97173-34-7 417-040-3		0 - 2

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures**4.1****Description of first-aid measures**

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

- Flash point : 49°C (120°F)
- Autoignition temperature : 420°C (788°F)

5.1**Extinguishing media**

- Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical.
- Unsuitable extinguishing media : High volume water jet.

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

- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Styrene Tar

Version 1.5

Revision Date 2021-10-13

5.3**Advice for firefighters**

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

SECTION 6: Accidental release measures**6.1****Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2**Environmental precautions**

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3**Methods and materials for containment and cleaning up**

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4**Reference to other sections**

Reference to other sections : For personal protection see section 8. For disposal considerations see section 13.

SECTION 7: Handling and storage**7.1****Precautions for safe handling
Handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against

Styrene Tar

Version 1.5

Revision Date 2021-10-13

static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

7.2**Conditions for safe storage, including any incompatibilities****Storage**

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8: Exposure controls/personal protection**8.1****Control parameters
Ingredients with workplace control parameters****SK**

Zložky	Podstata	Hodnota	Kontrolné parametre	Poznámka
Polystyrene	SK OEL	NPEL priemerný	5 mg/m ³	Tabuľka č. 5, Pre celkovú koncentráciu
	SK OEL	NPEL priemerný	5 mg/m ³	Pevný aerosol, pre celkovú koncentráciu
α-Methylstyrene	SK OEL	NPEL priemerný	50 ppm, 246 mg/m ³	
	SK OEL	NPEL krátkodobý	100 ppm, 492 mg/m ³	
Styrene	SK OEL	NPEL priemerný	20 ppm, 90 mg/m ³	
	SK OEL	NPEL krátkodobý	50 ppm, 200 mg/m ³	
Naphthalene	SK OEL	NPEL priemerný	10 ppm, 50 mg/m ³	K,
	SK OEL	NPEL krátkodobý	15 ppm, 80 mg/m ³	K,

K Znamená, že faktor môže byť ľahko absorbovaný kožou. Niektoré faktory, ktoré ľahko prenikajú kožou, môžu spôsobovať až smrteľné otravy, často bez varovných príznakov (napr. anilín, nitrobenzén, nitroglykol, fenoly a pod.). Pri látkach s významným prienikom cez kožu, či už v podobe kvapalín alebo pár, je osobitne dôležité zabrániť kožnému kontaktu.

Tabuľka č. 5 pevné aerosóly s prevažne dráždivým účinkom

SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
α-Methylstyrene	SI OEL	MV	50 ppm, 246 mg/m ³	
	SI OEL	KTV	100 ppm, 492 mg/m ³	
Styrene	SI OEL	MV	20 ppm, 86 mg/m ³	RD-2,
	SI OEL	KTV	40 ppm, 172 mg/m ³	RD-2,
Naphthalene	SI OEL	MV	10 ppm,	2, K,
	SI OEL	MV	50 mg/m ³	2, K, Inhalabilná frakcia
	SI OEL	KTV	10 ppm,	2, K,
	SI OEL	KTV	50 mg/m ³	2, K, Inhalabilná frakcia

2 Rakotvorne snovi - kategorija 2

K Lastnost lažjega prehajanja snovi v organizem skozi kožo

RD-2 Strupeno za rozmnoževanje - lahko škoduje nerojenemu otroku - kategorija 2

SE

Bestandsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
α-Methylstyrene	SE AFS	NGV	20 ppm, 98 mg/m ³	
	SE AFS	KGV	100 ppm, 492 mg/m ³	

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Styrene	SE AFS	NGV	10 ppm, 43 mg/m3	H,
	SE AFS	KGV	20 ppm, 86 mg/m3	V, H,
Naphthalene	SE AFS	NGV	10 ppm, 50 mg/m3	
	SE AFS	KGV	15 ppm, 80 mg/m3	V,

H Ämnet kan lätt upptas genom huden.

V Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas

RS

Компоненты	Основа	Величина	Параметры контроля	Заметка
α-Метилстирол	RS OEL	GVI	50 ppm, 246 mg/m3	EU*,
	RS OEL	KGVI	100 ppm, 492 mg/m3	EU*,
Нафталин	RS OEL	GVI	10 ppm, 50 mg/m3	Carc. cat. 3, EU,

Carc. cat. 3 Chemical substances that cause concern about possible carcinogenic effects for humans

EU Substance mentioned in indicative exposure limit values in Directive 91/322 / EEC

EU* Substance mentioned in indicative exposure limit values in Directive 2000/39 / EC (first list)

RO

Componente	Sursă	Valoare	Parametri de control	Notă
Phenanthrene	RO OEL	TWA	0,2 mg/m3	C1B,
α-Methylstyrene	RO OEL	TWA	50 ppm, 246 mg/m3	
	RO OEL	STEL	100 ppm, 492 mg/m3	
Styrene	RO OEL	TWA	12 ppm, 50 mg/m3	
	RO OEL	STEL	35 ppm, 150 mg/m3	
Dinitro-butylphenol (DNBP)	RO OEL	TWA	0,1 mg/m3	R1B,
	RO OEL	STEL	0,5 mg/m3	R1B,
Naphthalene	RO OEL	TWA	10 ppm, 50 mg/m3	C2,

C1B poate provoca apariția cancerului

C2 susceptibil de a provoca apariția cancerului

R1B poate dăuna fătului; poate dăuna fertilității

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
α-Methylstyrene	PT OEL	VLE-MP	10 ppm,	A3,
	PT OEL	VLE_CD	100 ppm,	A3,
	PT DL 305/2007	oito horas	50 ppm, 246 mg/m3	
	PT DL 305/2007	curta duração	100 ppm, 492 mg/m3	
Styrene	PT OEL	VLE-MP	20 ppm,	A4,
	PT OEL	VLE_CD	40 ppm,	A4,
Naphthalene	PT OEL	VLE-MP	10 ppm,	P, A3,
	PT DL 305/2007	oito horas	10 ppm, 50 mg/m3	
Divinylbenzene	PT OEL	VLE-MP	10 ppm,	

A3 Agente carcinogénico confirmado nos animais de laboratório com relevância desconhecida no Homem.

A4 Agente não classificável como carcinogénico no Homem.

P Perigo de absorção cutânea

PL

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Phenanthrene	PL NDS	NDS	0,002 mg/m3	
α-Methylstyrene	PL NDS	NDS	240 mg/m3	
	PL NDS	NDSch	480 mg/m3	
Styrene	PL NDS	NDS	50 mg/m3	
	PL NDS	NDSch	100 mg/m3	
Naphthalene	PL NDS	NDS	20 mg/m3	
	PL NDS	NDSch	50 mg/m3	
1,4-diethylbenzene	PL NDS	NDS	100 mg/m3	
	PL NDS	NDSch	400 mg/m3	
Divinylbenzene	PL NDS	NDS	50 mg/m3	

NO

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Phenanthrene	FOR-2011-12-06-1358	GV	0,04 mg/m3	K,
α-Methylstyrene	FOR-2011-12-06-1358	GV	50 ppm, 240 mg/m3	
Styrene	FOR-2011-12-06-1358	GV	25 ppm, 105 mg/m3	M,
Naphthalene	FOR-2011-12-06-1358	GV	10 ppm, 50 mg/m3	

K Kjemikalier som skal betraktes som kreftfremkallende.

M Kjemikalier som skal betraktes som mutagene.

NL

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
α-Methylstyrene	NL WG	TGG-8 uur	20 mg/m3	
Naphthalene	NL WG	TGG-8 uur	50 mg/m3	

Styrene Tar

Version 1.5

Revision Date 2021-10-13

	NL WG	TGG-15 min	80 mg/m3	
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MT

Components	Basis	Value	Control parameters	Note
α-Methylstyrene	MT OEL	TWA	50 ppm, 246 mg/m3	
	MT OEL	STEL	100 ppm, 492 mg/m3	
Naphthalene	MT OEL	TWA	10 ppm, 50 mg/m3	

MK

Съставки	Основа	Стойност	Параметри на контрол	Бележка
α-Methylstyrene	MK OEL	MV	50 ppm, 246 mg/m3	
Styrene	MK OEL	MV	20 ppm, 86 mg/m3	
Naphthalene	MK OEL	MV	10 ppm, 50 mg/m3	

LV

Sastāvdaļas	Bāze	Vērtība	Pārvaldības parametri	Piezīme
Phenanthrene	LV OEL	AER 8 st	0,8 mg/m3	
α-Methylstyrene	LV OEL	AER 8 st	50 ppm, 246 mg/m3	
	LV OEL	AER īslaicīgā	100 ppm, 492 mg/m3	
Styrene	LV OEL	AER 8 st	10 mg/m3	
	LV OEL	AER īslaicīgā	30 mg/m3	
Naphthalene	LV OEL	AER 8 st	10 ppm, 50 mg/m3	

LU

Composants	Base	Valeur	Paramètres de contrôle	Note
α-Methylstyrene	LU OEL	TWA	50 ppm, 246 mg/m3	
	LU OEL	STEL	100 ppm, 492 mg/m3	
Naphthalene	LU OEL	TWA	10 ppm, 50 mg/m3	

LT

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
α-Methylstyrene	LT OEL	IPRD	50 ppm, 246 mg/m3	
	LT OEL	TPRD	100 ppm, 492 mg/m3	
Styrene	LT OEL	IPRD	20 ppm, 90 mg/m3	O,
	LT OEL	TPRD	50 ppm, 200 mg/m3	O,
Naphthalene	LT OEL	IPRD	10 ppm, 50 mg/m3	

O pateikimas per nepažeistą odą

IT

Componenti	Base	Valore	Parametri di controllo	Nota
α-Methylstyrene	IT VLEP	TWA	50 ppm, 246 mg/m3	
	IT VLEP	STEL	100 ppm, 492 mg/m3	

IS

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Phenanthrene	IS OEL	TWA	0,2 mg/m3	
	IS OEL	TWA	0,2 mg/m3	Partikkel
α-Methylstyrene	IS OEL	TWA	50 ppm, 240 mg/m3	
	IS OEL	STEL	100 ppm, 492 mg/m3	
Styrene	IS OEL	STEL	25 ppm, 105 mg/m3	H,
Naphthalene	IS OEL	TWA	10 ppm, 50 mg/m3	

H Skin notation

IE

Components	Basis	Value	Control parameters	Note
α-Methylstyrene	IE OEL	OELV - 8 hrs (TWA)	50 ppm, 246 mg/m3	
	IE OEL	OELV - 15 min (STEL)	100 ppm, 492 mg/m3	
Styrene	IE OEL	OELV - 8 hrs (TWA)	20 ppm, 85 mg/m3	
	IE OEL	OELV - 15 min (STEL)	40 ppm, 170 mg/m3	
Naphthalene	IE OEL	OELV - 8 hrs (TWA)	10 ppm, 50 mg/m3	

HU

Komponensek	Bázis	Érték	Ellenőrzési paraméterek	Megjegyzés
α-Methylstyrene	HU OEL	AK-érték	246 mg/m3	R, EU1,
	HU OEL	CK-érték	492 mg/m3	R, EU1,
Styrene	HU OEL	AK-érték	86 mg/m3	R+T, i,
	HU OEL	CK-érték	172 mg/m3	R+T, i,
Naphthalene	HU OEL	AK-érték	50 mg/m3	N, EU91, i,

EU1 2000/39/EK irányelvben közölt érték

EU91 91/322/EGK irányelvben közölt érték

i Ingerlő anyag (izgatja a bőrt, nyálkahártyát, szemet vagy mindhámat)

N Irritáló anyagok, egyszerű fajtógázok, csekély egészségkárosító hatással bíró anyagok. Korrekció NEM szükséges.

Styrene Tar

Version 1.5

Revision Date 2021-10-13

R Azok az anyagok, amelyek egészségkárosító hatása RÖVID expozíció hatására jelentkezik. Korrigált ÁK = $\text{ÁK} \times 8/\text{a}$ napi óraszám
 R+T Azok az anyagok, amelyek RÖVID és TARTÓS expozíciója is egészségkárosodást okoz. Korrigált ÁK = $\text{ÁK} \times 8/\text{a}$ napi óraszám;
 Korrigált ÁK = $\text{ÁK} \times 40/\text{a}$ heti óraszám. A két faktor közül a szigorúbb (kisebb) értéket kell alkalmazni

HR

Sztojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
α-Methylstyrene	HR OEL	GVI	50 ppm, 246 mg/m ³	
	HR OEL	KGVI	100 ppm, 492 mg/m ³	
Styrene	HR OEL	GVI	100 ppm, 430 mg/m ³	koža,
	HR OEL	KGVI	250 ppm, 1.080 mg/m ³	koža,
Naphthalene	HR OEL	GVI	10 ppm, 50 mg/m ³	
	HR OEL		15 ppm, 75 mg/m ³	

koža Razvrstana kao tvar koja nadražuje kožu (H315) ili je takva napomena navedena u direktivama

GR

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
α-Methylstyrene	GR OEL	TWA	100 ppm, 480 mg/m ³	
	GR OEL	STEL	150 ppm, 720 mg/m ³	
Styrene	GR OEL	TWA	100 ppm, 425 mg/m ³	
	GR OEL	STEL	250 ppm, 1.050 mg/m ³	
Naphthalene	GR OEL	TWA	10 ppm, 50 mg/m ³	

GB

Components	Basis	Value	Control parameters	Note
α-Methylstyrene	GB EH40	TWA	50 ppm, 246 mg/m ³	
	GB EH40	STEL	100 ppm, 491 mg/m ³	
Styrene	GB EH40	TWA	100 ppm, 430 mg/m ³	
	GB EH40	STEL	250 ppm, 1.080 mg/m ³	

FR

Composants	Base	Valeur	Paramètres de contrôle	Note
α-Methylstyrene	FR VLE	VME	25 ppm, 123 mg/m ³	Peau, VLR indicatives,
	FR VLE	VLCT (VLE)	100 ppm, 492 mg/m ³	Peau, VLR indicatives,
Styrene	FR VLE	VME	23,3 ppm, 100 mg/m ³	Peau, Valeurs limites indicatives,
	FR VLE	VME	23,3 ppm, 100 mg/m ³	Peau, VLR contraignantes,
	FR VLE	VLCT (VLE)	46,6 ppm, 200 mg/m ³	Peau, Valeurs limites indicatives,
	FR VLE	VLCT (VLE)	46,6 ppm, 200 mg/m ³	Peau, VLR contraignantes,
Naphthalene	FR VLE	VME	10 ppm, 50 mg/m ³	C2, Valeurs limites indicatives,

C2 Substances préoccupantes en raison d'effets cancérogènes possibles

Peau Risque de pénétration percutanée

Valeurs limites Valeurs limites indicatives

indicatives

VLR Valeurs limites réglementaires contraignantes

contraignantes

VLR indicatives Valeurs limites réglementaires indicatives

FI

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
α-Methylstyrene	FI OEL	HTP-arvot 8h	50 ppm, 250 mg/m ³	
	FI OEL	HTP-arvot 15 min	100 ppm, 490 mg/m ³	
Styrene	FI OEL	HTP-arvot 8h	20 ppm, 86 mg/m ³	melu,
	FI OEL	HTP-arvot 15 min	100 ppm, 430 mg/m ³	melu,
Naphthalene	FI OEL	HTP-arvot 8h	1 ppm, 5 mg/m ³	
	FI OEL	HTP-arvot 15 min	2 ppm, 10 mg/m ³	
Divinylbenzene	FI OEL	HTP-arvot 8h	2 ppm, 11 mg/m ³	

melu Melu: aineille, joiden tiedetään voimistavan melun haitallisia kuulovaikutuksia.

ES

Componentes	Base	Valor	Parámetros de control	Nota
α-Methylstyrene	ES VLA	VLA-ED	50 ppm, 246 mg/m ³	
	ES VLA	VLA-EC	100 ppm, 492 mg/m ³	
Styrene	ES VLA	VLA-ED	20 ppm, 86 mg/m ³	
	ES VLA	VLA-EC	40 ppm, 172 mg/m ³	
Naphthalene	ES VLA	VLA-ED	10 ppm, 53 mg/m ³	vía dérmica,
	ES VLA	VLA-EC	15 ppm, 80 mg/m ³	vía dérmica,

vía dérmica Vía dérmica

EE

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Polystyrene	EE OEL	Piirnorm	3 mg/m ³	Kogu tolm
α-Methylstyrene	EE OEL	Piirnorm	50 ppm, 246 mg/m ³	

SDS Number:100000014833

10/29

Styrene Tar

Version 1.5

Revision Date 2021-10-13

	EE OEL	Lühiajalise kokkupuute piirnorm	100 ppm, 492 mg/m ³	
Styrene	EE OEL	Piirnorm	20 ppm, 90 mg/m ³	A,
	EE OEL	Lühiajalise kokkupuute piirnorm	50 ppm, 200 mg/m ³	A,
Naphthalene	EE OEL	Piirnorm	10 ppm, 50 mg/m ³	

A Naha kaudu kergesti absorbeeruvad ained

DK

Komponenter	Basis	Værdi	Kontrolparametre	Note
Phenanthrene	DK OEL	GV	0,2 mg/m ³	partikler
α-Methylstyrene	DK OEL	GV	50 ppm, 246 mg/m ³	
Styrene	DK OEL	L	25 ppm, 105 mg/m ³	H, K,
Naphthalene	DK OEL	GV	10 ppm, 50 mg/m ³	K,

H Betyder, at stoffet kan optages gennem huden.

K Betyder, at stoffet er optaget på listen over stoffer, der anses for at være kræftfremkaldende.

DE

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Polystyrene	DE TRGS 900	AGW	10 mg/m ³	Einatembare Fraktion
	DE TRGS 900	AGW	1,25 mg/m ³	Alveolengängige Fraktion
α-Methylstyrene	DE TRGS 900	AGW	50 ppm, 250 mg/m ³	
Styrene	DE TRGS 900	AGW	20 ppm, 86 mg/m ³	Y,
Naphthalene	DE TRGS 900	AGW	0,4 ppm, 2 mg/m ³	H, Y, Dampf und Aerosole, einatembare Fraktion
1,4-diethylbenzene	DE TRGS 900	AGW	2 ppm, 11 mg/m ³	H, Y,

H Hautresorptiv

Y Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden

CZ

Složky	Základ	Hodnota	Kontrolní parametry	Poznámka
Polystyrene	CZ OEL	PEL	5 mg/m ³	Celkové prach
α-Methylstyrene	CZ OEL	PEL	250 mg/m ³	I,
	CZ OEL	NPK-P	500 mg/m ³	I,
Styrene	CZ OEL	PEL	100 mg/m ³	I,
	CZ OEL	NPK-P	400 mg/m ³	I,
Naphthalene	CZ OEL	PEL	50 mg/m ³	
	CZ OEL	NPK-P	100 mg/m ³	

I dráždí sliznice (oči, dýchací cesty), respektive kůži

CY

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Phenanthrene	CY OEL 2	M.E.Σ.	0,2 mg/m ³	
α-Methylstyrene	CY OEL	TWA	50 ppm, 246 mg/m ³	
	CY OEL	STEL	100 ppm, 492 mg/m ³	
	CY OEL 2	M.E.Σ.	50 ppm, 245 mg/m ³	
Styrene	CY OEL 2	M.E.Σ.	50 ppm, 210 mg/m ³	
Naphthalene	CY OEL	TWA	10 ppm, 50 mg/m ³	

CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Phenanthrene	CH SUVA	MAK-Wert	0,002 mg/m ³	H, Carc.Cat.2, M1B, R1BF, NIOSH, OSHA, DFG, BG,
α-Methylstyrene	CH SUVA	MAK-Wert	50 ppm, 250 mg/m ³	R2F,
	CH SUVA	KZGW	100 ppm, 500 mg/m ³	R2F,
Styrene	CH SUVA	MAK-Wert	20 ppm, 85 mg/m ³	OL, NIOSH, OSHA, DFG, HSE, SSc,
	CH SUVA	KZGW	40 ppm, 170 mg/m ³	OL, NIOSH, OSHA, DFG, HSE, SSc,
Naphthalene	CH SUVA	MAK-Wert	10 ppm, 50 mg/m ³	H, Carc.Cat.3, NIOSH, OSHA,
Divinylbenzene	CH SUVA	MAK-Wert	10 ppm, 50 mg/m ³	INRS,

BG BG

Carc.Cat.2 Krebszerzeugende Stoffe Kategorie 2

Carc.Cat.3 Krebszerzeugende Stoffe Kategorie 3

DFG Deutsche Forschungsgemeinschaft

H Vergiftung durch Hautresorption möglich; Bei Stoffen, welche die Haut leicht zu durchdringen vermögen, kann durch die zusätzliche Hautresorption die innere Belastung wesentlich höher werden als bei alleiniger Aufnahme durch die Atemwege.

HSE Health and Safety Executive (Occupational Medicine and Hygiene Laboratory)

INRS Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles

M1B Stoffe, die wahrscheinlich vererbare Mutationen an menschlichen Keimzellen auslösen.

NIOSH National Institute for Occupational Safety and Health

OL lärmverstärkende Ototoxizität

Styrene Tar

Version 1.5

Revision Date 2021-10-13

OSHA Occupational Safety and Health Administration
 R1BF Stoffe, die wahrscheinlich reproduktionstoxisch sind; die Reproduktionstoxizität bezieht sich auf die Fruchtbarkeit oder Sexualität.
 R2F Stoffe, die möglicherweise beim Menschen reproduktionstoxisch sind; die Beeinträchtigung bezieht sich auf die Fruchtbarkeit oder Sexualität.
 SSc Eine Schädigung der Leibesfrucht braucht bei Einhaltung des MAK-Wertes nicht befürchtet zu werden.

BG

Съставки	Основа	Стойност	Параметри на контрол	Бележка
α-Methylstyrene	BG OEL	TWA	240 mg/m ³	
	BG OEL	STEL	485 mg/m ³	
Styrene	BG OEL	TWA	85 mg/m ³	
	BG OEL	STEL	215 mg/m ³	
Naphthalene	BG OEL	TWA	50 mg/m ³	
	BG OEL	STEL	75 mg/m ³	

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
α-Methylstyrene	BE OEL	TGG 8 hr	50 ppm, 246 mg/m ³	
	BE OEL	TGG 15 min	100 ppm, 492 mg/m ³	
Styrene	BE OEL	TGG 8 hr	25 ppm, 108 mg/m ³	D,
	BE OEL	TGG 15 min	50 ppm, 216 mg/m ³	D,
Naphthalene	BE OEL	TGG 8 hr	10 ppm, 53 mg/m ³	D,
	BE OEL	TGG 15 min	15 ppm, 80 mg/m ³	D,
Divinylbenzene	BE OEL	TGG 8 hr	10 ppm, 54 mg/m ³	

D Opname van het agens via de huid, de slijmvliezen of de ogen vormt een belangrijk deel van de totale blootstelling. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.

AT

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
α-Methylstyrene	AT OEL	MAK-TMW	50 ppm, 246 mg/m ³	
	AT OEL	MAK-KZW	100 ppm, 492 mg/m ³	
Styrene	AT OEL	MAK-TMW	20 ppm, 85 mg/m ³	
	AT OEL	MAK-KZW	80 ppm, 340 mg/m ³	
Naphthalene	AT OEL	MAK-TMW	10 ppm, 50 mg/m ³	H,

H Besondere Gefahr der Hautresorption

Biological exposure indices**SK**

Názov látky	Č. CAS	Kontrolné parametre	Doba odberu vzorky	Aktualizácia
Phenanthrene	85-01-8	1-hydroxypyren: 5,66 µg/l V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevylučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitoring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08

Styrene Tar

Version 1.5

Revision Date 2021-10-13

		1-hydroxypyren: 0.0259 nmol/l V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevylučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08
		1-hydroxypyren: 3.77 µg/g kreatinínu V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevylučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08
		1-hydroxypyren: 1.95 µmol/mol kreatinínu V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevylučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08
Styrene	100-42-5	kyselina mandľová a kyselina fenyglyoxylová: 901 mg/l (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18

Styrene Tar

Version 1.5

Revision Date 2021-10-13

		kyselina mandľová a kyselina fenylglyoxylová: 5960 µmol.l-1 (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina mandľová a kyselina fenylglyoxylová: 600 mg/g kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
		kyselina mandľová a kyselina fenylglyoxylová: 449 µmol/mmol kreatinínu (moč)	Pri dlhodobej expozícii; po viacerých predchádzajúcich pracovných zmenáchKoniec vystavenia alebo pracovnej zmeny	2016-01-18
Naphthalene	91-20-3	1-hydroxypyren: 5,66 µg/l V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevylučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08
		1-hydroxypyren: 0.0259 nmol/l V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevylučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08

Styrene Tar

Version 1.5

Revision Date 2021-10-13

		1-hydroxypyren: 3.77 µg/g kreatinínu V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevyučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitoring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08
		1-hydroxypyren: 1.95 µmol/mol kreatinínu V tejto prílohe sú uvedené aj niektoré chemické faktory s karcinogénnym účinkom (kategória 1A a kategória 1B). Pre tieto chemické faktory platí, že dodržanie BMH nevyučuje riziko škodlivých zdravotných účinkov, preto sú určené ako základ pre biomonitoring exponovaných osôb a zdravotný dohľad vykonávaný lekárom pracovnej zdravotnej služby podľa § 13 a prílohy č. 4 nariadenia vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení nariadenia vlády Slovenskej republiky č. 301/2007 Z. z. (moč) Karcinogén kategórie 1B ()	Koniec vystavenia alebo pracovnej zmeny	2015-04-08

SI

Ime snovi	Št. CAS	Parametri nadzora	Čas vzorčenia	Sprememba
Styrene	100-42-5	mandljeva kislina in fenilglioksiina kislina: 600 mg/g kreatinina (Urin)	pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikih Ob koncu delovne izmene	2018-12-04

RO

Numele substanței	Nr. CAS	Parametri de control	Timp de prelevare a probei	Adus la zi
Styrene	100-42-5	stiren: 0,55 mg/l (Sânge)	Sfârșit schimb	2018-08-17
		stiren: 0,02 mg/l (Sânge)	Începutul schimbului următor	2018-08-17
		acid mandelic: 800 mg/g creatinină (Urină)	Sfârșit schimb	2018-08-17
		acid mandelic: 300 mg/g creatinină (Urină)	Începutul schimbului următor	2018-08-17
		acid fenilglioxalic: 100 mg/g creatinină (Urină)	Sfârșit schimb	2018-08-17

Styrene Tar

Version 1.5

Revision Date 2021-10-13

PT

Nome da substância	No. CAS	Parâmetros de controlo	Tempo de amostra	Atualizada em
Styrene	100-42-5	Soma do ácido mandélico e ácido fenilglicólico: 400 mg/g creatinina Não específico (Urina)	Fim do turno	2014-11-14
		Estireno: 0,2 mg/l Os valores ou características entre parêntesis encontram-se propostos para alteração (sangue venoso) Semi quantitativo ()	Fim do turno	2014-11-14

LV

Vielas nosaukums	CAS Nr.	Pārvaldības parametri	Parauga ņemšanas laiks	Precizējums
Styrene	100-42-5	stirolu: 0,55 mg/l (Asinis)	maiņas beigās nosaka	2007-05-18
		mandeļskābi: 0.8 g/g kreatinīns (Urīns)	maiņas beigās nosaka	2007-05-18

IT

Denominazione della sostanza	N. CAS	Parametri di controllo	Tempo di campionamento	Aggiornamento

HU

Az anyag megnevezése	CAS szám	Ellenőrzési paraméterek	Mintavétel időpontja	Aktualizálás
Styrene	100-42-5	mandulasav: 600 mg/g kreatinin (húgyhólyag)	Munkahét végénműszak után	2020-02-06
		mandulasav: 450 µmol/mmol kreatinin (kerekített értékek) (húgyhólyag)	Munkahét végénműszak után	2020-02-06

HR

Naziv tvari	CAS-br.	Nadzorni parametri	Vrijeme uzorkovanja	Ažurirati
Styrene	100-42-5	stiren: 0.19 µmol/l (Krv)	oko 16 sati nakon završetka radne smjene	2018-10-12
		stiren: 20 µg/l (Krv)	oko 16 sati nakon završetka radne smjene	2018-10-12
		bademova kiselina: 1 g/g kreatinin Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
		bademova kiselina: 0.74 mol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
		fenilglioksilna kiselina: 240 mg/g kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12

Styrene Tar

Version 1.5

Revision Date 2021-10-13

		fenilglioksilna kiselina: 0.18 mol/mol kreatinina Računato na prosječnu vrijednost kreatinina od 1,2 g/L urina. Za sve rezultate koji se izražavaju na kreatinin, koncentracije kreatinina < 0,5 g/L i > 3,0 g/L ne mogu se uzeti u obzir. (Urin)	na kraju radne smjene	2018-10-12
		bademova kiselina + fenilglioksilna kiselina: 600 mg/g kreatinina (Urin)	kod kronične izloženosti u sredini radnog tjednana kraju radne smjene	2018-10-12

GB

Substance name	CAS-No.	Control parameters	Sampling time	Update
Phenanthrene	85-01-8	1-hydroxypyrene: 4 µmol/mol creatinine (Urine)	After shift	2011-12-18
Naphthalene	91-20-3	1-hydroxypyrene: 4 µmol/mol creatinine (Urine)	After shift	2011-12-18

FI

Aineen nimi	CAS-Nro.	Valvontaa koskevat muuttujat	Näytteenottoaika	Päivämäärä
Styrene	100-42-5	MAGPA: 1.2 mmol/l MAGPA = manteli- ja fenyyli glykossylihappo (Virtsä)	Työpäivän jälkeinen aamu	2009-07-01

ES

Nombre de la sustancia	No. CAS	Parámetros de control	Hora de muestreo	Puesto al día
Styrene	100-42-5	estireno: 0,2 mg/l Cuando el final de la exposición no coincide con el final de la jornada laboral, la muestra se tomará lo antes posible después de que cese la exposición real (sangre venosa) Significa que el indicador biológico es un indicador de exposición al agente químico en cuestión, pero la interpretación cuantitativa de su medida es ambigua (semicuantitativa). Estos indicadores biológicos deben utilizarse como una prueba de selección (screening) cuando no se pueda realizar una prueba cuantitativa o usarse como prueba de confirmación, si la prueba cuantitativa no es específica y el origen del determinante es dudoso. ()	Final de la jornada laboral	2015-02-01
		ácido mandélico más ácido fenilgloxílico: 400 mg/g creatinina Cuando el final de la exposición no coincide con el final de la jornada laboral, la muestra se tomará lo antes posible después de que cese la exposición real (Orina) Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos ()	Final de la jornada laboral	2015-02-01

DE

Stoffname	CAS-Nr.	Zu überwachende Parameter	Probennahmezeit punkt	Stand

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Styrene	100-42-5	Mandelsäure + Phenylglyoxylsäure: 600 mg/g Kreatinin (Urin)	bei Langzeitexposition: nach mehreren vorangegangenen Schichten Expositionsende, bzw. Schichtende	2018-06-07
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CZ

Název látky	Č. CAS	Kontrolní parametry	Doba odběru vzorku	Aktualizace
Styrene	100-42-5	Mandlová kyselina: 400 mg/g kreatininu (moč)	Konec směny	2003-12-15
		Mandlová kyselina: 300 μmol/mmol kreatininu (moč)	Konec směny	2003-12-15
		Mandlová + Fenylglyoxylová kyselina: 600 mg/g kreatininu (moč)	Konec směny	2003-12-15

CH

Stoffname	CAS-Nr.	Zu überwachende Parameter	Probennahmezeitpunkt	Stand
Styrene	100-42-5	Mandelsäure plus Phenylglyoxylsäure: 600 mg/g Kreatinin s. auch Ethylbenzol (Urin)	Expositionsende, bzw. Schichtende	2018-05-28

BG

Наименование на веществото	CAS номер	Параметри на контрол	Време на взимане на пробата	Последна актуализация
Styrene	100-42-5	бадемена киселина и фенилглиоксалова киселина - сумарно: 600 mg/g креатинин (Урина)	За продължителна експозиция - след няколко работни смени В края на експозицията или в края на смяната	2007-08-17

8.2**Exposure controls
Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Styrene Tar

Version 1.5

Revision Date 2021-10-13

- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**9.1****Information on basic physical and chemical properties****Appearance**

- Physical state : liquid
 Color : dark amber
 Odor : sweet aromatic

Safety data

- Flash point : 49°C (120°F)
- Lower explosion limit : 1,1 %(V)
- Upper explosion limit : 14 %(V)
- Oxidizing properties : no
- Autoignition temperature : 420°C (788°F)
- Molecular formula : UVCB
- pH : Not applicable
- Pour point : No data available
- Boiling point/boiling range : 171°C (340°F)
- Vapor pressure : 56,00 MMHG
 at 38°C (100°F)
- Relative density : 1,02
 at 15,6 °C (60,1 °F), estimated

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Water solubility	: Slightly soluble
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: 15,3 cSt at 50°C (122°F)
Relative vapor density	: 8 (Air = 1.0)
Evaporation rate	: No data available
Percent volatile	: 7 %

SECTION 10: Stability and reactivity**10.1**

Reactivity : Stable at normal ambient temperature and pressure.

10.2

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3**Possibility of hazardous reactions**

Hazardous reactions : Further information: No decomposition if stored and applied as directed.

Hazardous reactions: Vapors may form explosive mixture with air.

10.4

Conditions to avoid : Heat, flames and sparks.

10.5

Materials to avoid : No data available.

10.6

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**11.1****Information on toxicological effects****Styrene Tar**

Acute oral toxicity : LD50: 1.000 - 2.500 mg/kg
Species: Rat
Method: Estimated based on individual component values.

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Styrene Tar

Acute inhalation toxicity : LC50: > 20 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: vapor
Method: Acute toxicity estimate

Styrene Tar

Acute dermal toxicity : LD50: > 2.000 mg/kg
Species: Rabbit
Method: Acute toxicity estimate

Styrene Tar

Skin irritation : May cause skin irritation and/or dermatitis.

Styrene Tar

Eye irritation : May irritate eyes.

Styrene Tar

Sensitization : May cause sensitization of susceptible persons by skin contact. Estimated based on individual component values.

Repeated dose toxicity

Styrene : Species: Mouse, Male and female
Sex: Male and female
Application Route: Oral
Dose: 0. 150, 300 mg/kg
Exposure time: 78 wk
Number of exposures: 5 d/wk
NOEL: 150 mg/kg
Lowest observable effect level: 300 mg/kg

Species: Rat, male
Sex: male
Application Route: Inhalation
Dose: 0. 500, 650, 850, 1000 ppm
Exposure time: 4 wk
Number of exposures: 6 h/d, 5 d/wk
NOEL: 500 ppm
Target Organs: Ototoxicity

Genotoxicity in vitro

Styrene : Test Type: Ames test
Result: negative

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Test Type: Cytogenetic assay
Result: positive

Test Type: Reverse mutation assay
Result: negative

Test Type: Mouse lymphoma assay
Result: negative

Test Type: Sister Chromatid Exchange Assay
Result: positive

Test Type: Mammalian cell gene mutation assay
Result: negative

Naphthalene

Test Type: Ames test
Result: negative

Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Unscheduled DNA synthesis assay
Result: negative

Genotoxicity in vivo

Styrene : Remarks: No significant adverse effects were reported

Naphthalene : Test Type: Mouse micronucleus assay
Result: negative

Carcinogenicity

Naphthalene : Species: Mouse
Sex: male
Dose: 10, 30 ppm
Exposure time: 105 weeks
Number of exposures: 6 hours/day, 5 days/week
Test substance: yes
Print Date: No information available.
Remarks: No evidence of carcinogenicity

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Species: Mouse
 Sex: female
 Dose: 10, 30 ppm
 Exposure time: 105 weeks
 Number of exposures: 6 hours/day, 5 days/week
 Test substance: yes
 Print Date: No information available.
 Remarks: increased incidence of alveolar/bronchiolar adenomas

Species: Rat
 Sex: male and female
 Dose: 10, 30, 60 ppm
 Exposure time: 105 weeks
 Number of exposures: 6 hours/day, 5 days/week
 Test substance: yes
 Print Date: No information available.
 Remarks: nose respiratory epithelial adenoma, increased incidence of olfactory neuroblastomas

Developmental Toxicity

Naphthalene : Species: Rabbit
 Application Route: oral gavage
 Dose: 40, 200, 400 mg/kg
 Test period: 29 d, GD 6-18
 NOAEL Teratogenicity: 400 mg/kg

Styrene Tar

Aspiration toxicity : May be fatal if swallowed and enters airways.

CMR effects

Styrene : Carcinogenicity: This substance has been reported to cause tumors in certain animal species.
 Mutagenicity: In vitro tests showed mutagenic effects which were not observed with in vivo test.
 Teratogenicity: Some evidence of adverse effects on development, based on animal experiments.
 Reproductive toxicity: No toxicity to reproduction

Naphthalene : Carcinogenicity: Limited evidence of carcinogenicity in animal studies

Dinitro-butylphenol (DNBP) : Reproductive toxicity: Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

Styrene Tar

Further information : Solvents may degrease the skin.

SECTION 12: Ecological information**12.1****Toxicity****Ecotoxicity effects**

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Toxicity to fish

Diphenylmethane	: LC50: 2,76 mg/l Exposure time: 48 h Species: Oryzias latipes (Orange-red killifish)
α -Methylstyrene	NOEC: 2,13 mg/l Exposure time: 96 h Species: Danio rerio (zebra fish) static test Test substance: yes
Styrene	LC50: 4,02 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow) flow-through test Test substance: yes Toxic to fish.
Naphthalene	LC50: 3,2 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
4-tert-Butylcatechol	LC50: 0,12 mg/l Exposure time: 96 h Species: Danio rerio (Zebra Fish) Analytical monitoring: yes Test substance: yes Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Phenanthrene	: 0,1 mg/l Exposure time: 96 h Species: Daphnia pulex (Water flea)
α -Methylstyrene	EC50: 1,645 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
Styrene	EC50: 4,7 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) flow-through test
Naphthalene	LC50: 2,16 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
4-tert-Butylcatechol	EC50: 0,48 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) semi-static test Analytical monitoring: yes Test substance: yes Method: OECD Test Guideline 202

Toxicity to algae

α -Methylstyrene	: EC50: 11,441 mg/l Exposure time: 72 h
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Styrene Tar

Version 1.5

Revision Date 2021-10-13

	Species: <i>Desmodesmus subspicatus</i> (green algae) Test substance: yes Method: OECD Test Guideline 201
Styrene	EC50: 4,9 mg/l Exposure time: 72 h Species: <i>Selenastrum capricornutum</i> (algae)
Naphthalene	EC50: 2,96 mg/l Exposure time: 48 h Species: <i>Selenastrum capricornutum</i> (algae)
4-tert-Butylcatechol	EC50: 10,17 mg/l Exposure time: 72 h Species: <i>Pseudokirchneriella subcapitata</i> (green algae) Analytical monitoring: yes Test substance: yes Method: OECD Test Guideline 201 Harmful to algae.

M-Factor

Benzene, ethylenated, by-products from	:	M-Factor (Acute Aquat. Tox.)	1
		M-Factor (Chron. Aquat. Tox.)	1

Toxicity to bacteria

Styrene	:	EC10: 0,28 mg/l Exposure time: 96 h Growth rate Species: <i>Skeletonema costatum</i> (Marine Algae) Test substance: yes
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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Styrene	:	NOEC: 1,01 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) semi-static test Test substance: yes Method: OECD Test Guideline 211
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12.2**Persistence and degradability**

Biodegradability	:	No data available
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12.3**Bioaccumulative potential**

Elimination information (persistence and degradability)

Bioaccumulation	:	No data available
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12.4**Mobility in soil**

Styrene Tar

Version 1.5

Revision Date 2021-10-13

Mobility : No data available

12.5**Results of PBT and vPvB assessment**

Results of PBT assessment : This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

12.6**Other adverse effects**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Very toxic to aquatic life.

Long-term (chronic) aquatic hazard : Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations**13.1****Waste treatment methods**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information**14.1 - 14.7****Transport information****The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN1993, FLAMMABLE LIQUIDS, N.O.S., (STYRENE, A-METHYLSTYRENE), 3, III, MARINE

Styrene Tar

Version 1.5

Revision Date 2021-10-13

POLLUTANT, (A-METHYLSTYRENE, NAPHTHALENE), RQ (STYRENE, NAPHTHALENE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1993, FLAMMABLE LIQUID, N.O.S., (STYRENE, A-METHYLSTYRENE), 3, III, (49°C),
MARINE POLLUTANT, (STILBENES, PHENANTHRENE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1993, FLAMMABLE LIQUID, N.O.S., (STYRENE, A-METHYLSTYRENE), 3, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN1993, FLAMMABLE LIQUID, N.O.S., (STYRENE, A-METHYLSTYRENE), 3, III, (D/E),
ENVIRONMENTALLY HAZARDOUS, (STILBENES, PHENANTHRENE)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

UN1993, FLAMMABLE LIQUID, N.O.S., (STYRENE, A-METHYLSTYRENE), 3, III,
ENVIRONMENTALLY HAZARDOUS, (STILBENES, PHENANTHRENE)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN1993, FLAMMABLE LIQUID, N.O.S., (STYRENE, A-METHYLSTYRENE), 3, III,
ENVIRONMENTALLY HAZARDOUS, (STILBENES, PHENANTHRENE)

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**15.1****Safety, health and environmental regulations/legislation specific for the substance or mixture
National legislation**

Commission Regulation (EU) 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)

15.2**Major Accident Hazard
Legislation**

: ZEU_SEVES3 Update:
FLAMMABLE LIQUIDS
P5c
Quantity 1: 5.000 t
Quantity 2: 50.000 t

: ZEU_SEVES3 Update:
ENVIRONMENTAL HAZARDS
E1
Quantity 1: 100 t
Quantity 2: 200 t

Styrene Tar

Version 1.5

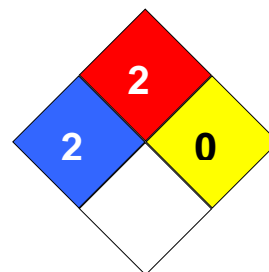
Revision Date 2021-10-13

Notification status

Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	Not in compliance with the inventory
United States of America (USA) TSCA	:	Not On TSCA Inventory
Canada DSL	:	This product contains one or several components that are not on the Canadian DSL nor NDSL.
Other AIIC	:	Not in compliance with the inventory
New Zealand NZIoC	:	Not in compliance with the inventory
Japan ENCS	:	Not in compliance with the inventory
Korea KECI	:	Not in compliance with the inventory
Philippines PICCS	:	Not in compliance with the inventory
Taiwan TCSI	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
Fire Hazard: 2
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : JCP00004

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

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

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration

Styrene Tar

Version 1.5

Revision Date 2021-10-13

EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapor.
H228	Flammable solid.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.