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Version Number 2

Reviewed on 03/29/2019

### **1** Identification

· Product identifier

· Trade name: Semi-Volatiles Standard (1X1 mL)

- · Part number: DWM-587-1
- $\cdot$  Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

#### · Information department:

Telephone: 800-227-9770 e-mail: pdl-msds\_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

# 2 Hazard(s) identification

#### · Classification of the substance or mixture

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

GHS08 Health hazard

Carc. 1B

H350 May cause cancer.

GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· Label elements

• GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). • Hazard pictograms



· Signal word Danger

Hazard-determining components of labeling: ethyl acetate benzo[a]pyrene
Hazard statements Highly flammable liquid and vapor. Causes serious eye irritation.

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#### Trade name: Semi-Volatiles Standard (1X1 mL)

(Contd. of page 1) May cause cancer. May cause drowsiness or dizziness. · Precautionary statements Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. In case of fire: Use for extinction: CO2, powder or water spray. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4) Health = 2Fire = 3Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH <sup>2</sup> Health = 2FIRE 3 Fire = 3**REACTIVITY** Reactivity = 0· Other hazards

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

#### **3** Composition/information on ingredients

- · Chemical characterization: Mixtures
- $\cdot$  **Description:** Mixture of the substances listed below with nonhazardous additions.
- · Dangerous components:

141-78-6 ethyl acetate

99.723%



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50-32-8 benzo[a]pyrene

## **4 First-aid measures**

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#### · Description of first aid measures

- · General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately rinse with water.
- · After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

#### **5** Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

# **6** Accidental release measures

- · Personal precautions, protective equipment and emergency procedures
- Wear protective equipment. Keep unprotected persons away.
- · Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- Reference to other sections
- See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

- See Section 13 for disposal information.
- · Protective Action Criteria for Chemicals

· PAC-1:		
	ethyl acetate	1,200 ppm
309-00-2	aldrin (ISO)	0.91 mg/m <sup>3</sup>
50-32-8	benzo[a]pyrene	0.6 mg/m <sup>3</sup>
60-57-1	dieldrin (ISO)	0.3 mg/m <sup>3</sup>
121-14-2	2,4-dinitrotoluene	0.6 mg/m <sup>3</sup>
606-20-2	2,6-dinitrotoluene	0.6 mg/m <sup>3</sup>
		(Contd. on page 4)



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0.0111%

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		(Contd. of page 3)
	Di-(2-ethylhexyl) adipate	17 mg/m <sup>3</sup>
	di-(2-ethylhexyl) phthalate	10 mg/m <sup>3</sup>
	endrin (ISO)	1.8 mg/m <sup>3</sup>
	heptachlor (ISO)	0.15 mg/m <sup>3</sup>
	heptachlor epoxide - isomer B	0.15 mg/m <sup>3</sup>
118-74-1	hexachlorobenzene	0.006 mg/m <sup>3</sup>
	hexachlorocyclopentadiene	0.03 ppm
	γ -HCH or γ -BHC	9.1 mg/m <sup>3</sup>
72-43-5	methoxychlor	30 mg/m <sup>3</sup>
· PAC-2:		
141-78-6	ethyl acetate	1,700 ppm
309-00-2	aldrin (ISO)	10 mg/m <sup>3</sup>
50-32-8	benzo[a]pyrene	120 mg/m <sup>3</sup>
60-57-1	dieldrin (ISO)	6.8 mg/m <sup>3</sup>
121-14-2	2,4-dinitrotoluene	12 mg/m <sup>3</sup>
606-20-2	2,6-dinitrotoluene	47 mg/m <sup>3</sup>
103-23-1	Di-(2-ethylhexyl) adipate	180 mg/m <sup>3</sup>
117-81-7	di-(2-ethylhexyl) phthalate	1,000 mg/m <sup>3</sup>
72-20-8	endrin (ISO)	20 mg/m <sup>3</sup>
76-44-8	heptachlor (ISO)	14 mg/m <sup>3</sup>
1024-57-3	heptachlor epoxide - isomer B	0.5 mg/m <sup>3</sup>
118-74-1	hexachlorobenzene	14 mg/m <sup>3</sup>
77-47-4	hexachlorocyclopentadiene	0.55 ppm
58-89-9	$\gamma$ -HCH or $\gamma$ -BHC	100 mg/m <sup>3</sup>
72-43-5	methoxychlor	150 mg/m <sup>3</sup>
· PAC-3:		
	ethyl acetate	10000** ppm
	aldrin (ISO)	$100 \text{ mg/m}^3$
	benzo[a]pyrene	700 mg/m <sup>3</sup>
	dieldrin (ISO)	450 mg/m <sup>3</sup>
	2,4-dinitrotoluene	200 mg/m <sup>3</sup>
	2,6-dinitrotoluene	200 mg/m <sup>3</sup>
	Di-(2-ethylhexyl) adipate	1,100 mg/m <sup>3</sup>
	di-(2-ethylhexyl) phthalate	6,100 mg/m <sup>3</sup>
	endrin (ISO)	2,000 mg/m <sup>3</sup>
	heptachlor (ISO)	700 mg/m <sup>3</sup>
	heptachlor epoxide - isomer B	3 mg/m <sup>3</sup>
	hexachlorobenzene	91 mg/m <sup>3</sup>
	hexachlorocyclopentadiene	1 ppm
	$\gamma$ -HCH or $\gamma$ -BHC	$1,000 \text{ mg/m}^3$
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 $4,500 \text{ mg/m}^3$ 

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72-43-5 methoxychlor

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# 7 Handling and storage

#### · Handling:

- Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
  Prevent formation of aerosols.
  Information about protection against explosions and fires:
- Keep ignition sources away Do not smoke. Protect against electrostatic charges. Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions:
- Keep receptacle tightly sealed.
- Store in cool, dry conditions in well sealed receptacles.
- $\cdot$  Specific end use(s) No further relevant information available.

#### 8 Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

#### · Control parameters

	ponents with limit values that require monitoring at the workplace:	
141-7	8-6 ethyl acetate	
PEL	Long-term value: 1400 mg/m <sup>3</sup> , 400 ppm	
REL	Long-term value: 1400 mg/m <sup>3</sup> , 400 ppm	
TLV	Long-term value: 1440 mg/m <sup>3</sup> , 400 ppm	
50-32	-8 benzo[a]pyrene	
PEL	Long-term value: 0.2 mg/m <sup>3</sup> see Coal tar pitch volatiles	
REL	Long-term value: 0.1 mg/m <sup>3</sup> Coal tar pitch volatile; Pocket Guide Apps. A+C	
TLV	L; BEIp	
·Ingre	dients with biological limit values:	
50-32	-8 benzo[a]pyrene	
BEI -	-	
]	Medium: urine	
,	Time: end of shift at end of workweek	
]	Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)	
·Addit	tional information: The lists that were valid during the creation were used as basis.	
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· Exposure controls · Personal protective equipment: · General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes. Avoid contact with the eyes and skin. **Breathing equipment:** When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed. Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge. Protection of hands: Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed. · Material of gloves For normal use: nitrile rubber, 11-13 mil thickness For direct contact with the chemical: butyl rubber, 12-15 mil thickness · Penetration time of glove material For normal use: nitrile rubber: 1 hour For direct contact with the chemical: butyl rubber: >4 hours · Eye protection: Tightly sealed goggles **9** Physical and chemical properties · Information on basic physical and chemical properties · General Information · Appearance: Form: Fluid Colorless **Color:** · Odor: Fruit-like · Odor threshold: Not determined. Not determined. · pH-value: · Change in condition

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	(Contd. of page
Ignition temperature:	460 °C (860 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion limits: Lower:	2.1 Vol %
Upper:	11.5 Vol %
Vapor pressure at 20 °C (68 °F):	75 hPa (56.3 mm Hg)
Density at 20 °C (68 °F): Relative density Vapor density Evaporation rate	0.9 g/cm <sup>3</sup> (7.5105 lbs/gal) Not determined. Not determined. Not determined.
Solubility in / Miscibility with Water at 20 °C (68 °F):	79 g/l
Partition coefficient (n-octanol/wate	er): Not determined.
<sup>•</sup> Viscosity: Dynamic at 20 °C (68 °F): Kinematic:	0.44 mPas Not determined.
Solvent content:	
Organic solvents: VOC content:	99.7 % 99.73 % 997.3 g/l / 8.32 lb/gal
Solids content: Other information	0.2 % No further relevant information available.

# **10 Stability and reactivity**

• Reactivity No further relevant information available.

· Chemical stability

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

#### **11 Toxicological information**

· Information on toxicological effects

• Acute toxicity:

 $\cdot$  LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative LC50/4 h 1,604 mg/L (rat)

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			(Contd. of pag
141-78-6 e	•		
	LD50	5,620 mg/kg (rabbit)	
		1,600 mg/L (rat)	
15972-60-			
		930 mg/kg (rat)	
	LD50	3,500 mg/kg (rabbit)	
Additional The produce Irritant	n: No irrita : Irritating ion: No ser I toxicolog et shows th	ant effect. effect. nsitizing effects known. gical information: ne following dangers according to internally approved calculati	ion methods for preparations
Carcinoge IARC (Int		ories I Agency for Research on Cancer)	
	aldrin (IS		
1912-24-9	atrazine (	ISO)	
50-32-8	benzo[a]p	byrene	
60-57-1	dieldrin (	ISO)	,
121-14-2	2,4-dinitr	otoluene	
606-20-2	2,6-dinitr	otoluene	1
103-23-1	Di-(2-eth	ylhexyl) adipate	
117-81-7	di-(2-ethy	/lhexyl) phthalate	,
72-20-8	endrin (IS	50)	
76-44-8	heptachlo	ır (ISO)	,
1024-57-3	heptachlo	or epoxide - isomer B	,
118-74-1	hexachlor	obenzene	2
58-89-9	ү -НСН о	νr γ -BHC	
72-43-5	methoxyc	hlor	-
122-34-9	simazine	(ISO)	-
		cology Program)	
	benzo[a]py		
	· •	hexyl) phthalate	
118-74-1 1			
58-89-9	γ -HCH or	γ-BHC	
	· -	tional Safety & Health Administration) nts is listed.	

# **12 Ecological information**

· Toxicity

• Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

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#### · Behavior in environmental systems:

- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Additional ecological information:

#### · General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground.

- Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- Other adverse effects No further relevant information available.

## **13 Disposal considerations**

· Waste treatment methods

· Recommendation:

\*

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

Not Regulated, De minimus Quantities	-	
UN-Number		
DOT, IMDG, IATA	UN1173	
UN proper shipping name		
DOT	Ethyl acetate solution	
· IMDG, IATA	ETHYL ACETATE solution	
Transport hazard class(es)		
Class	3 Flammable liquids	
Class Label	3 Flammable liquids 3	
Label	-	
Label Packing group	-	
Label Packing group DOT, IMDG, IATA	3	
Label Packing group DOT, IMDG, IATA Environmental hazards:	3 II	
	3 II Not applicable.	



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	(Contd. of p	page 9
· Stowage Category	В	
• Transport in bulk according to Annex I MARPOL73/78 and the IBC Code		
WIARPOL/5/78 and the IBC Code	Not applicable.	
• Transport/Additional information:		
·DOT		
· Quantity limitations	On passenger aircraft/rail: 5 L	
	On cargo aircraft only: 60 L	
·IMDG		
· Limited quantities (LQ)	1L	
· Excepted quantities (EQ)	Code: E2	
	Maximum net quantity per inner packaging: 30 ml	
	Maximum net quantity per outer packaging: 500 ml	
· UN "Model Regulation":	UN 1173 ETHYL ACETATE SOLUTION, 3, II	

# **15 Regulatory information**

 $^\circ$  Safety, health and environmental regulations/legislation specific for the substance or mixture  $^\circ$  Sara

309-00-2 a	ldrin (ISO)
72-20-8 e	ndrin (ISO)
77-47-4 h	exachlorocyclopentadiene
58-89-9 γ	-HCH or γ -BHC
· Section 31.	3 (Specific toxic chemical listings):
15972-60-8	alachlor (ISO)
309-00-2	aldrin (ISO)
1912-24-9	atrazine (ISO)
	benzo[a]pyrene
21725-46-2	cyanazine (ISO)
	2,4-dinitrotoluene
	2,6-dinitrotoluene
	di-(2-ethylhexyl) phthalate
	heptachlor (ISO)
	hexachlorobenzene
	hexachlorocyclopentadiene
	γ-HCH or γ-BHC
	methoxychlor
21087-64-9	metribuzin (ISO)
1918-16-7	propachlor (ISO)
122-34-9	simazine (ISO)



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TSCA (Toxic Substances Control Act):	
141-78-6 ethyl acetate	
1912-24-9 atrazine (ISO)	
50-32-8 benzo[a]pyrene	
121-14-2 2,4-dinitrotoluene	
606-20-2 2,6-dinitrotoluene	
103-23-1 Di-(2-ethylhexyl) adipate	
117-81-7 di-(2-ethylhexyl) phthalate	
118-74-1 hexachlorobenzene	
77-47-4 hexachlorocyclopentadiene	
58-89-9 γ -HCH or γ -BHC	
122-34-9 simazine (ISO)	
Proposition 65	
· Chemicals known to cause cancer:	
15972-60-8 alachlor (ISO)	
309-00-2 aldrin (ISO)	
50-32-8 benzo[a]pyrene	
60-57-1 dieldrin (ISO)	
121-14-2 2,4-dinitrotoluene	
606-20-2 2,6-dinitrotoluene	
117-81-7 di-(2-ethylhexyl) phthalate	
76-44-8 heptachlor (ISO)	
1024-57-3 heptachlor epoxide - isomer B	
118-74-1 hexachlorobenzene	
58-89-9 γ -HCH or γ -BHC	
1918-16-7 propachlor (ISO)	
• Chemicals known to cause reproductive toxicity for females:	
1912-24-9 atrazine (ISO)	
122-34-9 simazine (ISO)	
• Chemicals known to cause reproductive toxicity for males:	
121-14-2 2,4-dinitrotoluene	
606-20-2 2,6-dinitrotoluene	
117-81-7 di-(2-ethylhexyl) phthalate	
• Chemicals known to cause developmental toxicity:	
1912-24-9 atrazine (ISO)	
21725-46-2 cyanazine (ISO)	
117-81-7 di-(2-ethylhexyl) phthalate	
72-20-8 endrin (ISO)	
76-44-8 heptachlor (ISO)	
118-74-1 hexachlorobenzene	
122-34-9 simazine (ISO)	
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	onmental Protection Agency)	
309-00-2	aldrin (ISO)	B2
50-32-8	benzo[a]pyrene	СаН
60-57-1	dieldrin (ISO)	B2
103-23-1	Di-(2-ethylhexyl) adipate	С
117-81-7	di-(2-ethylhexyl) phthalate	B2
72-20-8	endrin (ISO)	D
	heptachlor (ISO)	B2
1024-57-3	heptachlor epoxide - isomer B	B2
118-74-1	hexachlorobenzene	B2
77-47-4	hexachlorocyclopentadiene	E, N
72-43-5	methoxychlor	D
51218-45-2	metolachlor	С
21087-64-9	metribuzin (ISO)	D
TLV (Three	shold Limit Value established by ACGIH)	
	alachlor (ISO)	A3
309-00-2	aldrin (ISO)	A3
1912-24-9	atrazine (ISO)	A4
50-32-8	benzo[a]pyrene	A2
60-57-1	dieldrin (ISO)	(A4
117-81-7	di-(2-ethylhexyl) phthalate	A3
72-20-8	endrin (ISO)	A4
76-44-8	heptachlor (ISO)	A3
1024-57-3	heptachlor epoxide - isomer B	A3
118-74-1	hexachlorobenzene	A3
77-47-4	hexachlorocyclopentadiene	A4
58-89-9	γ -HCH or γ -BHC	A3
72-43-5	methoxychlor	A4
21087-64-9	metribuzin (ISO)	A4
NIOSH-Ca	(National Institute for Occupational Safety and Health)	I
	Idrin (ISO)	
	penzo[a]pyrene	
	lieldrin (ISO)	
121-14-2	2,4-dinitrotoluene	
	li-(2-ethylhexyl) phthalate	
	neptachlor (ISO)	
	neptachlor epoxide - isomer B	
	nethoxychlor	



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· National regulations:

· Additional classification according to Decree on Hazardous Materials:

Carcinogenic hazardous material group III (dangerous).

· Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### **16 Other information**

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

#### · Date of preparation / last revision 03/29/2019 / 1

· Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids - Category 2 Eye Irrit. 2A: Serious eye damage/eye irritation - Category 2A Carc. 1B: Carcinogenicity - Category 1B STOT SE 3: Specific target organ toxicity (single exposure) - Category 3 \* \* Data compared to the previous version altered.



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