TDMAC-heparin (Tridodecylmethylammonium heparinate), 7% (w/w) solution

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	TDMAC-heparin (Tridodecylmethylammonium heparinate), 7% (w/w) solution
Product code	:	03813
Formula	:	mixture

1.2. Recommended use and restrictions on use

Recommended use	:	Use as laboratory reagent, Manufacture of substances

1.3. Supplier

Supplier
Polysciences
400 Valley Road
Warrington, PA 18976 - United States
T +1 215 343 6484 - F +1 215 343 0214
info@polysciences.com - www.polysciences.com

1.4. Emergency telephone number

Emergency number	:	24-hour emergency phone number ChemTel 1-800-255-3924 Contract # MIS1592086

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	Highly flammable liquid and vapor
Acute toxicity (oral) Category 4	Harmful if swallowed
Acute toxicity (inhalation) Category 4	Harmful if inhaled
Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 2B	Causes eye irritation

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
Highly flammable liquid and vapor
Harmful if swallowed or if inhaled
Causes skin irritation
Causes eye irritation

Precautionary statements (GHS US) :
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Benzene	(CAS-No.) 71-43-2		Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Cyclohexane	(CAS-No.) 110-82-7		Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Heparin, sodium salt (Sodium heparin, from porcine intestinal mucosa)	(CAS-No.) 9041-08-1		Not classified
N-Heptane, Pure 99.0%	(CAS-No.) 142-82-5		Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
n-hexane	(CAS-No.) 110-54-3		Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Toluene ACS	(CAS-No.) 108-88-3		Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Tridodecylmethylammonium chloride	(CAS-No.) 7173-54-8		Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT SE 2, H371
Naphtha (petroleum), solvent-refined light	(CAS-No.) 64741-84-0		Flam. Liq. 2, H225 Muta. 1B, H340 Carc. 1B, H350 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell. Rinse mouth.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Mild eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store at room temp. Store in a well-ventilated place. Keep cool. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

TDMAC-heparin (Tridodecylmethylammonium heparinate), 7% (w/w) solution
No additional information available

Benzene (71-43-2)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	0.5 ppm
ACGIH STEL (ppm)	2.5 ppm

ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Human Carcinogen
USA - ACGIH - Biological Exposure Indices	
Biological Exposure Indices (BEI)	25 µg/g Kreatinin Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g Kreatinin Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) (ppm)	10 ppm 1 ppm
OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
OSHA PEL C [ppm]	25 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	50 ppm Peak (10 minutes)
USA - IDLH - Occupational Exposure Limits	
US IDLH (ppm)	500 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA [ppm]	0.1 ppm
NIOSH REL STEL [ppm]	1 ppm

Cyclohexane (110-82-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Cyclohexane
ACGIH TWA (ppm)	100 ppm
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2020
USA - OSHA - Occupational Exposure Limits	
Local name	Cyclohexane
OSHA PEL (TWA) (mg/m³)	1050 mg/m³
OSHA PEL (TWA) (ppm)	300 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
US IDLH (ppm)	1300 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA) (mg/m³)	1050 mg/m³
NIOSH REL TWA [ppm]	300 ppm

Heparin, sodium salt (Sodium heparin, from porcine intestinal mucosa) (9041-08-1)
No additional information available

Toluene ACS (108-88-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Toluene
ACGIH TWA (ppm)	20 ppm
Remark (ACGIH)	TLV® Basis: Visual impair; female repro; pregnancy loss. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2020
USA - OSHA - Occupational Exposure Limits	
Local name	Toluene
OSHA PEL (TWA) (ppm)	200 ppm
OSHA PEL C [ppm]	300 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm 10 mins.
Remark (OSHA)	(2) See Table Z-2.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2
USA - IDLH - Occupational Exposure Limits	
US IDLH (ppm)	500 ppm

USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA) (mg/m³)	375 mg/m³
NIOSH REL TWA [ppm]	100 ppm
NIOSH REL (STEL) (mg/m³)	560 mg/m³
NIOSH REL STEL [ppm]	150 ppm

Tridodecylmethylammonium chloride (7173-54-8)
No additional information available

N-Heptane, Pure 99.0% (142-82-5)
No additional information available

n-hexane (110-54-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	n-Hexane
ACGIH TWA (ppm)	50 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; peripheral neuropathy; eye irr. Notations: Skin; BEI
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2020
USA - OSHA - Occupational Exposure Limits	
Local name	n-Hexane
OSHA PEL (TWA) (mg/m³)	1800 mg/m³
OSHA PEL (TWA) (ppm)	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
US IDLH (ppm)	1100 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA) (mg/m³)	180 mg/m³
NIOSH REL TWA [ppm]	50 ppm

Naphtha (petroleum), solvent-refined light (64741-84-0)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	clear colorless liquid solvent odor.
Color	:	Mixture contains one or more component(s) which have the following colour(s): Colorless clear
Odor	:	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: gasoline-like liquid with gasoline-like petroleum model airplane glue
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	no data
Freezing point	:	No data available
Boiling point	:	148
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	83 mm Hg
Relative vapor density at 20 °C	:	3.28
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Highly flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Harmful if inhaled.

ATE US (oral)	500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Benzene (71-43-2)	
LD50 oral rat	810 mg/kg
LD50 dermal rabbit	> 8200 mg/kg
LC50 Inhalation - Rat	44.66 mg/l/4h

Cyclohexane (110-82-7)	
LD50 oral rat	12705 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat [ppm]	> 9500 ppm/4h

Toluene ACS (108-88-3)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 Inhalation - Rat	12.5 mg/l/4h

n-hexane (110-54-3)	
LD50 oral rat	25 g/kg
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat [ppm]	48000 ppm/4h

Naphtha (petroleum), solvent-refined light (64741-84-0)	
LD50 oral rat	> 7000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat [ppm]	73680 ppm/4h

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Evidence of Carcinogenicity, Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

Toluene ACS (108-88-3)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

Cyclohexane (110-82-7)	
STOT-single exposure	May cause drowsiness or dizziness.

Toluene ACS (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.

Tridodecylmethylammonium chloride (7173-54-8)	
STOT-single exposure	May cause respiratory irritation. May cause damage to organs.

N-Heptane, Pure 99.0% (142-82-5)	
STOT-single exposure	May cause drowsiness or dizziness.

n-hexane (110-54-3)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

Benzene (71-43-2)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Toluene ACS (108-88-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

n-hexane (110-54-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Mild eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Benzene (71-43-2)	
LC50 fish 1	10.7 – 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	8.76 – 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Cyclohexane (110-82-7)	
LC50 fish 1	3.96 – 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.9 mg/l
LC50 fish 2	23.03 – 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
NOEC chronic algae	0.94 mg/l

Toluene ACS (108-88-3)	
NOEC chronic crustacea	0.74 mg/l

n-hexane (110-54-3)	
LC50 fish 1	2.1 – 2.98 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	3.88 mg/l

Naphtha (petroleum), solvent-refined light (64741-84-0)	
EC50 Daphnia 1	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Benzene (71-43-2)	
BCF fish 1	3.5 – 4.4

Benzene (71-43-2)	
Partition coefficient n-octanol/water (Log Pow)	2.1

Cyclohexane (110-82-7)	
Partition coefficient n-octanol/water (Log Pow)	3.44

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1993 Flammable liquids, n.o.s., 3, II

UN-No.(DOT) : UN1993

Proper Shipping Name (DOT) : Flammable liquids, n.o.s.

Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 3 - Flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location	:	B - (i) The material may be stowed ''on deck'' or ''under deck'' on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) ''On deck only'' on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Emergency Response Guide (ERG) Number	:	128
Other information	:	No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG)	:	UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II
UN-No. (IMDG)	:	1993
Proper Shipping Name (IMDG)	:	FLAMMABLE LIQUID, N.O.S.
Class (IMDG)	:	3 - Flammable liquids
Packing group (IMDG)	:	II - substances presenting medium danger
Limited quantities (IMDG)	:	1 L

Air transport

Transport document description (IATA)	:	UN 1993 Flammable liquid, n.o.s., 3, II
UN-No. (IATA)	:	1993
Proper Shipping Name (IATA)	:	Flammable liquid, n.o.s.
Class (IATA)	:	3 - Flammable Liquids
Packing group (IATA)	:	II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	10 lb received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule

Cyclohexane (110-82-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	1000 lb

Heparin, sodium salt (Sodium heparin, from porcine intestinal mucosa) (9041-08-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).

Toluene ACS (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb

Tridodecylmethylammonium chloride (7173-54-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

N-Heptane, Pure 99.0% (142-82-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

n-hexane (110-54-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

Naphtha (petroleum), solvent-refined light (64741-84-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Benzene (71-43-2)	
Listed on the Canadian DSL (Domestic Substances List)	
Toxic Substance (CEPA – Schedule I)	Yes

Cyclohexane (110-82-7)
Listed on the Canadian DSL (Domestic Substances List)

Heparin, sodium salt (Sodium heparin, from porcine intestinal mucosa) (9041-08-1)
Listed on the Canadian DSL (Domestic Substances List)

Toluene ACS (108-88-3)
Listed on the Canadian DSL (Domestic Substances List)

Tridodecylmethylammonium chloride (7173-54-8)
Listed on the Canadian NDSL (Non-Domestic Substances List)

N-Heptane, Pure 99.0% (142-82-5)
Listed on the Canadian DSL (Domestic Substances List)

n-hexane (110-54-3)
Listed on the Canadian DSL (Domestic Substances List)

Naphtha (petroleum), solvent-refined light (64741-84-0)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Benzene (71-43-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Benzene (71-43-2)
Listed on IARC (International Agency for Research on Cancer) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Japanese ISHL (Industrial Safety and Health Law) Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed as carcinogen on NTP (National Toxicology Program) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on CICR (Turkish Inventory and Control of Chemicals) Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Benzene (71-43-2)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	No	Yes	6.4 µg/day (oral)	24 µg/day oral

Toluene ACS (108-88-3)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		7000 µg/day

n-hexane (110-54-3)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	No	No	Yes		28000 µg/day (oral); 20,000 µg/day (inhalation)

Component	State or local regulations
Benzene(71-43-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances; U.S. - Pennsylvania - RTK (Right to Know) List
Cyclohexane(110-82-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
N-Heptane, Pure 99.0%(142-82-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
n-hexane(110-54-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Toluene ACS(108-88-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (GHS HazCom 2012)

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