

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: PAINT THINNER

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Type: Thinners/Solvent
Product Name: **Paint Thinner**
Part Number(s): **10-6702**

Emergency Contact: **Chemtrec**
Phone: **(800) 424-9300**

SECTION 2: HAZARD(S) IDENTIFICATION

Hazard Classification



GHS02 Flame

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



GHS08 Health hazard

Muta. 1A H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

Repr. 1A H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin 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).

Pictogram(s)



GHS02



GHS07



GHS08

Signal Word *Danger*

Hazard-determining Component(s)

Toluene
Naphtha (petroleum), hydrotreated heavy
benzene

Hazard statements

Highly flammable liquid and vapor.
Causes skin irritation.
May cause genetic defects.
May cause cancer.

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SECTION 2: HAZARD(S) IDENTIFICATION (CONTINUED)

May damage fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves / eye protection / face protection.
Wear protective gloves.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If swallowed: Immediately call a poison center/doctor.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Specific treatment (see on this label).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a poison center/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Do NOT induce vomiting.
In case of fire: Use for extinction: CO2, powder or water spray.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard Rating System

NFPA System

NFPA Ratings (scale 0 - 4)



NFPA special hazards (water reactivity and oxidizing property): None

HMIS System

HMIS Ratings (scale 0 - 4)



Other hazards

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Mixtures

Composition/Information on Ingredients

CAS: 64742-48-9 EINECS: 265-150-3 Index Number: 649-327-00-6	Naphtha (petroleum), hydrotreated heavy Asp. Tox. 1, H304 Flam. Liq. 4, H227	40-50%
CAS: 108-88-3 EINECS: 203-625-9 Index Number: 601-021-00-3 RTECS: XS 5250000	Toluene Flam. Liq. 2, H225 Muta. 1A, H340; Carc. 1A, H350; Repr. 1A, H360; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	40-50%

Classification System:

The Classifications were based on the Toxicological and Ecological Data of the substances/mixtures in the Section 11 and 12.

SECTION 4: FIRST-AID MEASURES

Description of First Aid Measures

General Information

Symptoms may be delayed several hours after exposure; victims should be medically observed for at least 48 hours after exposure. Ensure medical personnel are aware of exposure and take precautions for their personal protection; see Section 8 for the information of personal protection.

After Inhalation

Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing. In case of unconsciousness place patient stably in side position for transportation. Use a respiration bag or breathing device. Give artificial respiration if not breathing. If breathing is difficult, administer oxygen. Seek immediate medical advice.

After Skin Contact

Remove all contaminated clothing and wash before reuse. Wash contaminated skin with water and soap and rinse thoroughly. Seek immediate medical advice.

After Eye Contact

Rinse opened eyes under running water for at least 15 minutes. Remove contact lenses if present and easy to do so; continue rinsing. Seek immediate medical advice.

After Swallowing

If victim is unconscious; never give anything by mouth. If victim is conscious, rinse out mouth with water. Do NOT induce vomiting. If vomiting occurs spontaneously, keep victim's head below hips to prevent aspiration of liquid into lungs. Seek immediate medical advice even there are no symptoms.

After Exposure Get medical advice/attention at once.



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SECTION 4: FIRST-AID MEASURES (CONTINUED)

Information for Doctor Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.

Indication of any Immediate Medical Attention and Special Treatment Needed

After frequent or high intense exposure, the following medical tests are recommended:

skin tests

nervous system function tests

kidney tests

liver tests

Reproductive system function tests

respiratory system tests

Check section 11 Toxicological Information for further relevant information.

Additional Information

For additional information, please consult the corresponding first aid measures in the most current version of Emergency Response Guidebook which is produced by the US Department of Transportation.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Agent(s)

Use fire fighting measures and extinguishing agents that suit the environment.

In case of fire, suitable extinguishing agents are:

Alcohol resistant foam.

Dry chemical or fire-extinguishing powder.

Carbon dioxide (CO₂).

Water spray or water fog.

Unsuitable Extinguishing Agent(s) No relevant information.

Firefighting Procedures

Isolate fire and deny unnecessary entry.

Eliminate all ignition sources if safe to do so.

Do not extinguish fire unless flow can be stopped.

Fight fire remotely due to the risk of explosion.

Burning liquids may be moved by flushing with water; protect personnel and minimize property damage.

Fight fire from protected location or safe distance.

Contain fire water runoff if possible to prevent environmental pollution.

Special Hazards Arising in Fire

Caution! Highly flammable liquid or vapor.

In case of fire, following can be released:

Carbon dioxide (CO₂) and Carbon monoxide (CO)

Advice for Firefighters

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

Additional Information Ensure adequate and functional fire fighting facilities equipped in working area at all times.



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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions

Caution! Highly flammable liquid or vapor; wear fire resistant or retardant clothing during clean up.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.
Ensure personnel take precautions for their personal protection during clean up; see Section 8 for the specific requirements.

Environmental Precautions Keep away from sewage system or other water courses; do not penetrate ground/soil.

Cleaning Up Methods

Eliminate heat, sparks, open flame and other ignition sources before clean up.
A vapor suppressing foam should be used to reduce vapors at first.
All equipment used for clean up must be grounded.
Don't touch or walk through spilled chemicals unless trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).
Ensure adequate ventilation.
Keep unauthorized personnel away.
For large spills:
Shut off source of leak if safe to do so.
Dike and contain.
Remove with vacuum trucks or pump to storage/salvage vessels.
Absorb residues with liquid-binding materials.
For small spills:
Ventilate and wash area after clean-up is complete.
Collect spills in suitable and properly labeled containers.
Do not use solvents unless following safe handling practices and within the recommended exposure guidelines.
Dispose contaminated chemicals as waste according to Section 13.

Additional Information No further relevant information.

SECTION 7: HANDLING AND STORAGE

Handling

Precautions for Safe Handling

Caution! Highly flammable liquid or vapor.
Obtain special instruction before use; do not handle until all safety precautions have been read and understood.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during handling.
Keep away from heat, sparks, open flame and other ignition sources during handling.
Ensure good ventilation and/or exhaustion at workplace.
Keep away from incompatible material(s).
Avoid any release into the environment.
Keep container tightly closed when not in use if product is volatile so as to generate hazardous atmosphere.
Observe all the personal protection requirements in Section 8.

Information about Protection Against Explosions and Fires

Keep away from heat, sparks, open flame and other ignition sources.
Protect against electrostatic charges during handling.
Metal containers involved must be grounded and bonded.
Use only non-sparking tools and equipment, especially when opening or closing containers of combustible contents.
Have approved respirators prepared.



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SECTION 7: HANDLING AND STORAGE (CONTINUED)

Storage

Requirements to be Met by Storerooms and Receptacles

Caution! Highly flammable liquid or vapor; keep away from heat, sparks, open flame and other ignition sources during storage.
 Store in tightly closed containers in a cool, and well-ventilated area.
 Keep stored in accordance with local, regional, national, and international regulations.

Information about Storage in One Common Storage Facility

Store away from incompatible material(s).
 Store away from foodstuffs.
 Avoid release to the environment.

Additional Information No further relevant information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures or Controls

Exposure Limit Values that Require Monitoring at the Workplace

64742-48-9 Naphtha (petroleum), hydrotreated heavy	
OSHA	Short-term value: 400 mg/m ³
108-88-3 Toluene	
PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm
TLV	Long-term value: 75 mg/m ³ , 20 ppm BEI
100-41-4 Ethylbenzene	
PEL	Long-term value: 435 mg/m ³ , 100 ppm
REL	Short-term value: 545 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV	Long-term value: 87 mg/m ³ , 20 ppm BEI
71-43-2 benzene	
PEL	Short-term value: 15* mg/m ³ , 5* ppm Long-term value: 3* mg/m ³ , 1* ppm *table Z-2 for exclusions in 29CFR1910.1028(d)
REL	Short-term value: 1 ppm Long-term value: 0.1 ppm See Pocket Guide App. A
TLV	Short-term value: 8 mg/m ³ , 2.5 ppm Long-term value: 1.6 mg/m ³ , 0.5 ppm Skin; BEI

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

· **Additional Information for the Limit Values**

As a CLASSIFIED CARCINOGEN, there may be NO safe level of exposure; reduce all contact to the lowest possible level.
As a classified TERATOGEN to humans, there may be NO safe level of exposure; reduce all contact to the lowest possible level.

· **Other Engineering Measures or Controls**

Ventilation rates should be matched to conditions.

If applicable, use process enclosure(s), local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

· **Personal Protective**

· **General Protective and Hygienic Measures**

Avoid any skin contact.

Do not eat, drink or smoke during work.

Keep food, drink or feed away from working area.

Contaminated work clothing is not allowed out of workplace.

Avoid any skin contact.

Clean hands and exposed skin thoroughly after work and before breaks.

· **Personal Protective Equipment (PPE)**

· **Breathing Equipment**

Caution! Improper use of respirators is dangerous.

In case of brief exposure or low pollution, use a respiratory filter device.

In case of intensive or longer exposure, use a positive-pressure respiratory protective device that is independent of circulating air.

· **Hand Protection**



Protective gloves

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.

Suggested glove type(s):

Nitrile Gloves

Butyl Rubber Gloves

· **Eye Protection**



Safety Glasses

· **Body Protection** No relevant information.

· **Additional Information**

All protective clothing (suits, gloves, footwear, headgear) should be clean, available every day, and put on before work.

The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.



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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties	
Appearance:	
· Form:	Liquid
· Color:	Clear
· Odor:	Characteristic
· Odor Threshold:	Not determined.
PH-Value: Not determined.	
Change in Condition:	
· Melting Point:	Not determined.
· Boiling Point:	108 °C (226 °F)
· Flash Point:	4 °C (39 °F)
· Decomposition Temperature:	Not determined.
· Flammability:	Not determined.
· Explosion:	Not determined.
Explosion Limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor Pressure:	Not determined.
· Density at 20 °C (68 °F):	0.81 g/cm ³ (6.759 lbs/gal)
Solubility in or Miscibility with	
· Water:	Not miscible or difficult to mix.
Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
Additional Information No further relevant information.	

SECTION 10: STABILITY AND REACTIVITY

- **Physical Hazard(s)** Highly flammable liquid or vapor.
- **Hazardous Reactivity and Chemical Stability** May form explosive vapor-air mixtures when heated above the flash point.
- **Thermal Decomposition and Conditions to be Avoided**
Highly flammable liquid or vapor; keep away from direct sunlight, heat, sparks, open flame and other ignition sources at all times.
- **Possibility of Other Hazardous Reaction(s)** No further relevant information available.
- **Incompatible Material(s)**
Oxidizing agents
Bases (Alkalis)
Halogens
Strong acids



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SECTION 10: STABILITY AND REACTIVITY (CONTINUED)

- **Hazardous Decomposition Product(s)**
Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.
- **Hazardous Polymerization Product(s)** *No relevant information.*
- **Additional Information** *No further relevant information.*

SECTION 11: TOXICOLOGICAL INFORMATION

· **Acute Toxicity**

Oral	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Oral LD50	>5000 mg/kg (rat) Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403 Reference: ExxonMobil SDS
108-88-3 Toluene	
Oral LD50	>5580 mg/kg (rat) Reference: Sigma Aldrich SDS 2015
100-41-4 Ethylbenzene	
Oral LD50	3500 - 4700 mg/kg (rat) Reference: ECHA (2011).
71-43-2 benzene	
Oral LD50	4894 mg/kg (rat)

- **Potential Health Effect(s):**
 abnormal pain
 diarrhea
 vomiting
 See acute inhalative effect(s) for further information

Dermal	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Dermal LD50	>5000 mg/kg (rab) Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402 Reference: ExxonMobil SDS
108-88-3 Toluene	
Dermal LD50	12267 mg/kg (rabbit) (males; occlusive; neat substance) Reference: ECHA (2011).
100-41-4 Ethylbenzene	
Dermal LD50	15433 mg/kg (rabbit) (male; occlusive; neat substance; 24hr-exposure) Calculated from LD50 of 17.8 mL/kg bw and the specific gravity of 0.867 g/ml. Reference: ECHA (2011).
71-43-2 benzene	
Dermal LD50	48 mg/kg (mouse)

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Product Name: PAINT THINNER

SECTION 11: TOXICOLOGICAL INFORMATION (CONTINUED)

Potential Health Effect(s):

No further relevant information available; classification is not possible.
 See acute inhalative effect(s) for further information.

Inhalative	
108-88-3 Toluene	
Inhalative LC50/4 h	18 mg/l (rat) (Calculated from LC50 of 12.5, 28.1, 28.8, & 33mg/L) The LC50/4hrs of 18 mg/l was lower than 90% of the saturated vapor concentration (124.5 mg/l at 25 °C) under a saturated vapour pressure of 33 hPa (25 °C); thus, the substance was considered as vapor containing substantially no mist, and placed into Category 4 for the acute inhalative toxicity. Reference: ECHA (2011).
100-41-4 Ethylbenzene	
Inhalative LC50/4 h	17.2 mg/l (rat) (Inhalation: vapor) The LD50 was calculated from 4000 ppm and a conversion factor of 1 ppm = 0.00434 mg/l. Due to 4000 ppm was lower than 90% of the saturated vapor concentration (≈ 12500 ppm) under a saturated vapour pressure of 12.7 hPa (25 °C), the substance was considered as "vapor containing no mist". Reference: ECHA (2011).
71-43-2 benzene	
Inhalative LC50/4 h	9980 mg/l (mouse)

Potential Health Effect(s):

While not possible to classify the acute inhalative hazard due to missing data, the product may cause the following symptom(s):
 headache
 passing out

Skin Corrosion or Irritation	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Corrosion/Irritation	mild irritation (Test species: n/a) Mildly irritating to skin with prolonged exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404 Reference: ExxonMobil SDS
108-88-3 Toluene	
Corrosion/Irritation	irritating (rabbit) (EU Method B4; 0.5ml neat substance; 4hr-contact) Erythema: 3.3 (Max. score: 4; mean score of all treated animals; Time point: 24+48+72 hrs); not fully reversible within 7 days. Edema: 1.1 (Max. score: 4; mean score of all treated animals; Time point: 24+48+72 hrs); not fully reversible within 7 days. The substance was therefore considered as a moderate dermal irritant (Category 2). Reference: ECHA (2011).
100-41-4 Ethylbenzene	
Corrosion/Irritation	moderately irr. (rabbit) (shaved skin; occlusive; neat substance) The substance was moderately irritating to skin and caused moderate necrosis after 10-20 time daily application with undiluted substance to ear and shaved abdomen (occluded) of the treated rabbits. Reference: ECHA (2011).

Potential Health Effect(s):

Causes skin irritation.
 In contact with skin, may cause:
 redness and pain

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SECTION 11: TOXICOLOGICAL INFORMATION (CONTINUED)

Eye Serious Damage or Irritation	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Damage/Irritation	<i>mild irritation (Test species: n/a) May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405 Reference: ExxonMobil SDS</i>
108-88-3 Toluene	
Damage/Irritation	<i>slightly (rabbit) (OECD TG 405; 0.1 ml neat substance) Cornea: 0/4 (Max. score: 4; Time point: 24h+48h+72h; mean score of all treated animals) Iris: 0/2 (Max. score: 2; Time point: 24h+48h+72h; mean score of all treated animals) Conjunctivae: 1.4/3 (Max. score: 3; Time point: 24h+48h+72h; mean score of all treated animals) Chemosis: 0.4/3 (Max. score: 3; Time point: 24h+48h+72h; mean score of all treated animals) The substance was therefore considered as slightly irritating (Category 2B) to rabbit eyes. Reference: ECHA (2011).</i>
100-41-4 Ethylbenzene	
Damage/Irritation	<i>slightly (rabbit) Slight irritation to conjunctivae (perceptible irritation), but no changes to cornea were diagnosed after instillation with 2 drops of undiluted substance to rabbit eyes. The substance was therefore classified as slightly irritating (Category 2B) to rabbit eyes. Reference: ECHA (2011).</i>

Potential Health Effect(s): No further relevant information; classification is not possible.

Respiratory or Skin Sensitization	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Sensitization	Skin <i>negative (Test species: n/a) Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406 Reference: ExxonMobil SDS</i>
108-88-3 Toluene	
Sensitization	Skin <i>not sensitizing (guinea pig) (intradermal and epicutaneous; EU Method B6) Only one treated pig showed a grade 1 reaction (discrete or patchy erythema) in response to a 50% solution. No other skin reactions were observed. The substance was therefore not classified as a skin sensitizer in this study. Reference: ECHA (2011).</i>
	Respiratory <i>(No data available)</i>
100-41-4 Ethylbenzene	
Sensitization	Skin <i>not sensitizing (Human) (maximization test) A maximization test was carried out on 25 volunteers with a 10% concentration of the substance, and it produced no sensitization reactions. Reference: ECHA (2011).</i>
	Respiratory <i>(No data available)</i>

Potential Health Effect(s): No relevant information for respiratory sensitization; classification is not possible.

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SECTION 11: TOXICOLOGICAL INFORMATION (CONTINUED)

OSHA-Ca (Occupational Safety & Health Administration)	
71-43-2	benzene
Germ Cell Mutagenicity	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Mutagenicity	not expected (Test species: n/a) Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476 478 479 Reference: ExxonMobil SDS
108-88-3 Toluene	
Mutagenicity	negative (salmonella typhimurium) (In Vitro (Mammalian cell gene mutation assay)) In Vitro (Mammalian cell gene mutation assay; OECD TG 476; L5178Y mouse lymphoma cells) - negative with and without metabolic activation. In Vitro (Bacterial reverse mutation assay; EU Method B13/14; S. typhimurium TA 1535, TA 1537, TA 98 and TA 100) - negative with and without metabolic activation. In Vivo (Chromosome aberration; Rat; Intraperitoneal with up to 0.25 ml/kg) - negative; there was no evidence of genotoxicity observed. Reference: ECHA (2011).
100-41-4 Ethylbenzene	
Mutagenicity	negative (Human) In Vitro (mammalian cell gene mutation assay; OECD TG 476; mouse lymphoma L5178Y cells) - negative with and without metabolic activation In Vitro (mammalian chromosome aberration test; OECD TG 473; Chinese hamster Ovary (CHO)) - negative with and without metabolic activation In Vivo (unscheduled DNA synthesis; OECD TG 486; mouse; inhalation with 1000ppm of the substance) - negative; the substance did not induce DNA repair (as measured by unscheduled DNA synthesis) in the mouse liver. In Vivo (micronucleus assay; OECD TG 474; mouse; up to 750 mg/kg/day) - negative; the substance did not increase the rate of development of micronuclei in polychromatic erythrocytes. Reference: ECHA (2011).
Potential Health Effect(s): May cause genetic defects.	
Carcinogenicity	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Carcinogenicity	not expected (Test species: n/a) Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451 453 Reference: ExxonMobil SDS
108-88-3 Toluene	
Carcinogenicity	negative (rat) (OECD TG 453; Inhalation: vapor) NOAEC (Inhalation with up to 4.52 mg/l) = 4.52 mg/l; no increases in any tumor type observed. Reference: ECHA (2011). IARC: Group 3 Not classifiable as to it's carcinogenicity to humans.
100-41-4 Ethylbenzene	
Carcinogenicity	positive (Test species: n/a) Classified as Group 2B by IARC and Category A3 by ACGIH; the substance was therefore classified as a suspected human carcinogen (Category 2) by GHS-J. Reference: GHS-J (2006).



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SECTION 11: TOXICOLOGICAL INFORMATION (CONTINUED)

Potential Health Effect(s):

May cause cancer.
 Not a known Carcinogen.

Reproductive Toxicity

64742-48-9 Naphtha (petroleum), hydrotreated heavy

Reproductive Toxi. not expected (Test species: n/a)
 Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421 422
 Reference: ExxonMobil SDS

108-88-3 Toluene

Reproductive Toxi. positive (Test species: n/a)
 There were reproductive and/or developmental effects including increased incidence of natural abortion, abnormal development, and malformation of newborns observed after chronic exposure to the substance in humans. Meanwhile, there was evidence that it caused effects including increased incidences of foetal death, higher delayed ossification rate, a decrease and unossification of sternbrae, a shift in rib profile, excess ribs, retarded skeletal development, delayed reflex response, learning disability, early vaginal opening, and early testes descent at dosing levels not toxic to dams from rat and mouse teratogenicity tests. Meanwhile, it was listed as a teratogen by California 65. The substance was therefore classified as a suspected teratogen.
 Reference: GHS-J (2006), California Proposition 65 (2009), and ECHA (2012).

100-41-4 Ethylbenzene

Reproductive Toxi. N/a (rat)
 14% increase in incidence in pups with supernumerary ribs was observed at 1000 ppm dose level. Maternal effects in dams at this dose consisted of increases in liver (approximately 22%), kidney (approximately 10%), and spleen (approximately 10%) weights in the absence of histopathology changes. However, ECHA determined it was conclusive but not sufficient to make a conclusion.
 Reference: ECHA (2012).

Potential Health Effect(s): May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

64742-48-9 Naphtha (petroleum), hydrotreated heavy

STOT-Single negative (Test species: n/a)
 Not expected to cause organ damage from a single exposure.
 Reference: ExxonMobil SDS

108-88-3 Toluene

STOT-Single (Human) (Target: Nervous system via inhalation)
 Based on human epidemiological studies, the substance caused fatigue, sleepiness, dizziness and mild respiratory irritation after short term inhalation with 50-100 ppm of the substance.
 Reference: US NIOSH (2011).

100-41-4 Ethylbenzene

STOT-Single (No data available)

Potential Health Effect(s): May cause respiratory irritation.

Specific Target Organ Toxicity - Repeated Exposure

64742-48-9 Naphtha (petroleum), hydrotreated heavy

STOT-Repeated negative (Test species: n/a)
 Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413 422
 Reference: ExxonMobil SDS



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SECTION 11: TOXICOLOGICAL INFORMATION (CONTINUED)

108-88-3 Toluene	
STOT-Repeated	(Human) (Nervous system, kidney, and liver via inhalation) The substance induced nervous system effects including restricted vision, headache associated with nystagmus and hearing loss, tremor, ataxia and amnesia; kidney and liver effects including cerebral atrophy in CT tests, renal dysfunction manifested, hepatic toxicity associated with an increase in SGOT, fatty degeneration of hepatic cells, and lymphocytic infiltration after repeated exposure to the substance in human victims. Reference: US NIOSH (2011).
100-41-4 Ethylbenzene	
STOT-Repeated	(Rats and Mice) Target: Liver, Lung, and Systemic effects (Category 2). LOAEL (mouse; OECD TG 453; Inhalation: vapors; up to 750 ppm (3.25 mg/l) for 104 weeks) = 75 ppm: effects in liver, lung, thyroid and pituitary pathology were observed in mice that inhaled ≥ 250 ppm (1.08 mg/L) of the substance for 2 years. NOAEL (rat; OECD TG 407; oral with up to 750 mg/kg/day for 28 days) = 75 mg/kg bw/day; increased liver weight and hepatocellular hypertrophy at higher dose levels. Reference: ECHA (2011).
Potential Health Effect(s): May cause damage to organs through prolonged or repeated exposure.	
Aspiration Hazard	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Aspiration Hazard	(Test species: n/a) May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material. Reference: ExxonMobil SDS
108-88-3 Toluene	
Aspiration Hazard	positive (Test species: n/a) (As a hydrocarbon with viscosity of 0.65 mm ² /s) As a hydrocarbon with dynamic viscosity of 0.65 mm ² /s (25 °C), the substance was classified as a Category 1 aspiration hazard. Reference: GHS-J (2006).
100-41-4 Ethylbenzene	
Aspiration Hazard	(Test species: n/a) The substance may cause chemical pneumonia due to mis-swallowing based on NIOSH ICSC. Meanwhile, the substance was a hydrocarbon with the kinematic viscosity of 0.74mm ² /s at 25 °C. Thus, the substance was classified as a Category 1 aspiration hazard based on the criteria. Reference: GHS-J (2007).

Potential Health Effect(s):

May be fatal if swallowed and enters airways.
If aspirated, causes coughing, gagging, distress, and rapidly developing pulmonary edema.

Additional Information No further relevant information.

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SECTION 12: ECOLOGICAL INFORMATION

Aquatic Environmental Toxicity	
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
Crustacean Toxicity	1000 mg/l (Daphnia magna (water flea))
108-88-3 Toluene	
Algae Toxicity	207 mg/l (Chlorella vulgaris) (EC50 (3 hrs)) 134 mg/l (Chlamydomonas angulosa) (EC50 (3 hrs))
Crustacean Toxicity	3.78 mg/l (Ceriodaphnia dubia) (LC50 (48 hrs); US EPA 600/4-91-003) NOEC (7 days) = 0.74 mg/l Based on the rapid degradability, the substance is not classified as a chronic hazard. Based on the acute LC50 <10 mg/l, the substance is classified as an Acute-2 environmental hazard.
Fish Toxicity	5.5 mg/l (Oncorhynchus mykiss (Rainbow trout)) (LC50 (96 hrs)) 1.39 mg/l (Oncorhynchus kisutch) (NOEC (40 days); growth rate) Reference: ECHA (2011).
100-41-4 Ethylbenzene	
Algae Toxicity	3.6 mg/l (Selenastrum capricornum) (LC50 (96 hrs); growth rate, TSCA 797.1050) 7.7 mg/l (Skeletonema costatum) (LC50 (96 hrs); growth rate, TSCA 797.1050)
Crustacean Toxicity	1.81 - 2.38 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs); static) 3.2 mg/l (Ceriodaphnia dubia) LC50(48 hrs; static; EPA Whole Effluent Testing Program method)
Fish Toxicity	4.2 mg/l (Oncorhynchus mykiss (Rainbow trout)) (LC50 (96 hrs); OECD TG 203) 5.1 mg/l (Menidia menidia) (LC50 (96 hrs); flow-through, TSCA 797.1440) 12.1 mg/l (Pimephales promelas) (LC50 (96 hrs); flow-through) Based on the acute LC50 < 10 mg/l and the non-rapid degradability, the substance was classified as a chronic-2 environmental hazard. Reference: ECHA (2011) and OECD SIDS (2002).

Aquatic Environmental Toxicity Assessment: No further relevant information; classification is not possible.

Degradability and Stability	
108-88-3 Toluene	
Biodegradation	readily biodeg. (Test species: n/a) (Biodegradation (OECD TG 301C) = 100%) Biodegradation (Direct analysis from GC; Chemical conc. 100 ppm; 2 weeks) = 100% The substance is readily biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) (The substance is not persistent) Although it was concluded to be persistent by Canada DSL, the substance was approved to be readily biodegradable and fast photodegradable based on ECHA; assessment is not possible without further information.
Photodegradation	6.19E-12 cm ³ /molecule-sec (OH radical) Half-life (5E5 OH/cm ³) = 2.59 days Reference: ECHA (2011).



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SECTION 12: ECOLOGICAL INFORMATION (CONTINUED)

100-41-4 Ethylbenzene	
Biodegradation	non-biodegrad. (Test species: n/a) (OECD TG 301C; Chemical conc. 100ppm; 4 weeks) Biodegradation (Direct analysis from HPLC) = 0% Biodegradation (Indirect analysis from BOD) = 0% The substance is non-biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) The substance is persistent. Reference: Canada DSL (2007).
Photodegradation	(7-8)E-12 cm ³ /molecule-sec (OH radical) Half-life = 1 day Reference: OECD SIDS (2002).
Stability in water	(Test species: n/a) The substance does not contain any hydrolysable functional groups; hydrolysis is not expected. Reference: OECD SIDS (2002).

Bioaccumulation and Distribution

108-88-3 Toluene	
BCF	90 (Leuciscus idus (Ide or Orfe)) (The substance is not or low bioaccumulative)
Koc	(No data available)
LogPow	2.73 (Test species: n/a) (pH=7; at 20 °C) Reference: Canada DSL (2007) and ECHA (2011).
100-41-4 Ethylbenzene	
BCF	1.1-15 (Test species: n/a) The substance is not bioaccumulative. Reference: Canada DSL (2007).
Koc	(No data available)
LogPow	3.13 - 3.15 (Test species: n/a) Reference: OECD SIDS (2002).

Degradability and Bioaccumulation Assessment: Non-rapidly degradable, and low bioaccumulative.

Additional Information No further relevant information.

SECTION 13: DISPOSAL CONSIDERATIONS

Hazardous Waste List

Description:

The product has not been evaluated for its hazards when disposed as a waste by RCRA.
 However, it is necessary to contain and dispose of the product as a hazardous waste based on the Hazard Identification in Section 2.

RCRA Waste:			
108-88-3	Toluene	U220	40-50%
100-41-4	Ethylbenzene	D001	0.1-<1%

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SECTION 13: DISPOSAL CONSIDERATIONS (CONTINUED)




Waste Treatment Recommendation:

Generation of waste should be avoided or minimized wherever possible.
 Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage.
 Dispose of contents/containers in accordance with local, regional, national, and international regulations.

Unused and Uncontaminated Packagings

Recommendation Dispose of according to your local waste regulations.

SECTION 14: TRANSPORT INFORMATION

UN-Number	
· DOT, ADR, IMDG, IATA	UN1993
UN Proper Shipping Name	
· DOT, ADR, IMDG, IATA	Flammable liquids, n.o.s. (Toluene, Naphtha)
Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· ADR	
	
· Class	3 (F1) Flammable liquids
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids
· Label	3



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SECTION 14: TRANSPORT INFORMATION (CONTINUED)

Packing group	
DOT, ADR, IMDG, IATA	II
Environmental Hazards:	Not applicable.
Special Precautions:	Warning: Flammable liquids
Danger Code (Kemler):	33
EMS Number:	F-E, S-E
Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional Information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
ADR	
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
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":	UN1993, Flammable liquids, n.o.s. (Toluene, Naphtha) 3, II

SECTION 15: REGULATORY INFORMATION

- USA Regulation Lists
- SARA (Superfund Amendments and Reauthorization Act of 1986)

Section 302 (Extremely Hazardous Substances)		
None of the ingredients is listed.		
Section 313 (Toxics Release Inventory (TRI) reporting)		
108-88-3	Toluene	40-50%
100-41-4	Ethylbenzene	0.1-<1%
71-43-2	benzene	0.1-<1%
Section 311/312 (Hazardous Chemical Inventory Reporting)		
108-88-3	Toluene	A, C, F 40-50%



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SECTION 15: REGULATORY INFORMATION (CONTINUED)

Hazard Abbreviations for SARA 311/312

- A - Acute Health Hazard
- C - Chronic Health Hazard
- F - Fire Hazard
- R - Reactive Hazard
- S - Sudden Release of Pressure Hazard

TSCA (Toxic Substances Control Act)

All ingredients are listed.

Proposition 65

Chemicals Known to Cause Cancer

100-41-4 Ethylbenzene
 71-43-2 benzene

Chemicals Known to Cause Reproductive Toxicity for Females

108-88-3 Toluene

Chemicals Known to Cause Reproductive Toxicity for Males

71-43-2 benzene

Chemicals Known to Cause Developmental Toxicity

108-88-3 Toluene
 71-43-2 benzene

Carcinogenic Categories

EPA (Environmental Protection Agency)

108-88-3	Toluene	D
100-41-4	Ethylbenzene	D
71-43-2	benzene	A, KL

IARC (International Agency for Research on Cancer)

108-88-3	Toluene	3
100-41-4	Ethylbenzene	2B
71-43-2	benzene	1

NTP (National Toxicology Program)

71-43-2	benzene	K
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TLV (Threshold Limit Value Established by ACGIH)

108-88-3	Toluene	A4
100-41-4	Ethylbenzene	A3
71-43-2	benzene	A1

NIOSH-Ca (National Institute for Occupational Safety and Health)

71-43-2	benzene	
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SECTION 15: REGULATORY INFORMATION (CONTINUED)

International Regulation Lists

Canadian Domestic Substance Listings:	
All ingredients are listed.	
Canadian Ingredient Disclosure list (limit 0.1%)	
100-41-4	Ethylbenzene
71-43-2	benzene
Canadian Ingredient Disclosure list (limit 1%)	
108-88-3	Toluene
Chinese Chemical Inventory of Existing Chemical Substances:	
All ingredients are listed.	
Japanese Existing and New Chemical Substance List:	
108-88-3	Toluene
100-41-4	Ethylbenzene
71-43-2	benzene
Korean Existing Chemical Inventory:	
All ingredients are listed.	
European Pre-registered substances:	
All ingredients are listed.	
REACH - Substances of Very High Concern (SVHC) List:	
None of the ingredients is listed.	
Restriction of Hazardous Substances Directive (RoHS) list:	
None of the ingredients is listed.	

SECTION 16- OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department Issuing (M)SDS: Product Safety Department

Abbreviations and acronyms:

- ACGIH: American Conference of Governmental Industrial Hygienists
- ACToR: US EPA Aggregated Computational Toxicology Resource
- ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
- BCF: Bioconcentration Factor
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- CCRIS: US NLM TOXNET Chemical Carcinogenesis Research Information System
- CHRIP: Japan NITE Information on Biodegradation and Bioconcentration of the Existing Chemical Substances in the Chemical Risk Information Platform
- DOT: US Department of Transportation
- DSL: Canada Domestic Substance List
- ESIS: European Chemical Substances Information System
- HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System



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SECTION 16- OTHER INFORMATION (CONTINUED)

HSDB: US NLM TOXNET Hazardous Substances Databank

HSNO CCID: New Zealand Hazardous Substances and New Organisms Chemical Classification Information Database

IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)

IATA-DGR: Dangerous Goods Regulations (DGR) by the International Air Transport Association (IATA)

ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)

ICSC: International Chemical Safety Cards

IMDG: International Maritime Dangerous Goods; the principal international rules for International Carriage of Dangerous Goods by SEA under the Recommendations on the Transport of Dangerous Goods by United Nations (RTDG)

Koc: Partition coefficient, soil Organic Carbon to water

LC50/LD50: Lethal Concentration/Dose, 50 percent

N/a: Not available or Not applicable

NFPA: US National Fire Protection Association

NIOSH: US National Institute of Occupational Safety and Health

NITE: National Institute of Technology and Evaluation, Japan

OECD: Organisation for Economic Co-operation and Development

OSHA: US Occupational Safety and Health Administration

P: Marine Pollutant

RCRA: Resource Conservation and Recovery Act (USA)

REACH: EU Registry, Evaluation and Authorisation of Chemicals

RID: the Regulations Concerning the International Carriage of Dangerous Goods by Rail; published by the Central Office for International Carriage by Rail (OTIF)

RTDG: the Recommendations on the Transport of Dangerous Goods by United Nations (UN)

RTECS: US Registry of Toxic Effects of Chemical Substances

SARA: US Superfund Amendments and Reauthorization Act

SIDS: OECD existing chemicals Screening Information Data Sets

SVHC: EU ECHA Substance of Very High Concern

TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)

TOXLINE: US NLM bibliographic database search system

TSCA: US Toxic Substance Control Act

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