Version 1.0 Revision Date: 02/13/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: : General Purpose Solvent and Adhesive Cleaner
Catalog Number: : CRL2032
Product Use Description : Industrial chemical. For Professional and Industrial Use Only.

Manufacturer or supplier's details

Company : C.R. Laurence Co., Inc.
Address 2503 E. Vernon Ave.
Los Angeles, CA 90058-1826
Telephone: (323) 588-1281

24 Hour Emergency Phone(s): CHEMTREC: (800) 424-9300 (24 hours)

Additional Information: Not for sale to the general public.

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	: Category 2
Skin irritation	: Category 2
Eye irritation	: Category 2A
Carcinogenicity	: Category 2
Reproductive toxicity	: Category 2
Specific target organ toxicity - single exposure	: Category 3 (Central nervous system)
Specific target organ toxicity - single exposure (Inhalation)	: Category 2 (Auditory system, Eyes)
Aspiration hazard	: Category 1

GHS Label element

Hazard pictograms :

Signal word	:	Danger
Hazard statements	:	H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H361 Suspected of damaging fertility or the unborn child. H373 May cause damage to organs (Auditory system, Eyes) through prolonged or repeated exposure if inhaled.
Precautionary statements	:	**Prevention:** P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ eye protection/ face protection. P281 Use personal protective equipment as required. **Response:** P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 + P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Carcinogenicity:

IARC	Group 2B: Possibly carcinogenic to humans	
	64742-49-0	Naphtha (petroleum), hydrotreated light
	64742-89-8	Solvent naphtha (petroleum), light aliph.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.	
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.	

Emergency Overview

Appearance	liquid
Colour	clear, colourless
Odour	hydrocarbon-like, solvent-like, sweet, pungent
Hazard Summary	No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical Name	Concentration (%)
108-88-3	Toluene	50 - 60
64742-49-0	Naphtha (petroleum), hydrotreated light	0 - 50
64742-89-8	Solvent naphtha (petroleum), light aliph.	0 - 50
68410-97-9	Distillates (petroleum), light distillate hydrotreating process, low-boiling	0 - 50
110-82-7	Cyclohexane	1 - 5
142-82-5	Heptane	0.1 - 1

Special Notes: : Functionally equivalent petroleum streams may be found in this preparation at varying concentrations.

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious place in recovery position and seek medical advice.

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.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO_2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Use a water spray to cool fully closed containers.
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.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

NFPA Flammable and Combustible Liquids Classification:
Flammable Liquid Class IB

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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.
Methods and materials for containment and 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).

7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/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 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.
Conditions for safe storage	:	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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parame-ters/ Permissible concentration	Basis
108-88-3	Toluene	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m³	NIOSH REL
		ST	150 ppm 560 mg/m³	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm 375 mg/m³	OSHA P0
		STEL	150 ppm 560 mg/m³	OSHA P0
64742-49-0	Naphtha (petroleum), hydrotreated light	TWA	500 ppm 2,000 mg/m³	OSHA Z-1
		TWA	400 ppm 1,600 mg/m³	OSHA P0
64742-89-8	Solvent naphtha (petroleum), light aliph.	TWA	500 ppm 2,000 mg/m³	OSHA Z-1
		TWA	400 ppm 1,600 mg/m³	OSHA P0
110-82-7	Cyclohexane	TWA	100 ppm	ACGIH
		TWA	300 ppm 1,050 mg/m³	NIOSH REL
		TWA	300 ppm 1,050 mg/m³	OSHA Z-1
		TWA	300 ppm 1,050 mg/m³	OSHA P0
142-82-5	Heptane	TWA	85 ppm 350 mg/m³	NIOSH REL
		C	440 ppm 1,800 mg/m³	NIOSH REL
		TWA	500 ppm 2,000 mg/m³	OSHA Z-1
		TWA	400 ppm 1,600 mg/m³	OSHA P0
		STEL	500 ppm 2,000 mg/m³	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Toluene	108-88-3	Toluene	In blood	Prior to last shift of work week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear, colourless
Odour	:	hydrocarbon-like, solvent-like, sweet, pungent
Odour Threshold	:	No data available
pH	:	No data available
Freezing Point	:	No data available
Boiling Point (Boiling point/boiling range)	:	85° C (185° F) (1,013.333333 hPa) Calculated Phase Transition Liquid/Gas
Flash point	:	7° C (45° F)
Evaporation rate	:	1 Ethyl Ether
Flammability (solid, gas)	:	No data available
Burning rate	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	0.9 % (V)
Vapour pressure	:	170.0 mmHg @ 37.78° C (100.00° F) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	0.804 @ 15.56° C (60.01° F)
Density	:	0.804 g/cm^3 @ 15.56° C (60.01° F)
Bulk density	:	No data available
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature and direct sunlight. Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 40 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Components:

108-88-3:

Acute oral toxicity	:	LD50 (rat, male): > 5,580 mg/kg
Acute inhalation toxicity	:	LC50 (rat, male and female): 28.1 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (rabbit): > 5,000 mg/kg

64742-49-0:

Acute oral toxicity	:	LD50 (rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 401 Symptoms: abnormal stools, incoordination GLP: yes Remarks: No mortality observed at this dose.
Acute inhalation toxicity	:	LC50 (rat, male and female): > 5610 mg/ m^3 Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes Remarks: Not classified
Acute dermal toxicity	:	LD50 (rabbit, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

64742-89-8:

Acute oral toxicity	:	LD50 (rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	LC50 (rat, male and female): 7.6 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes
Acute dermal toxicity	:	LD50 (rabbit, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

68410-97-9:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

110-82-7:

Acute oral toxicity	:	LD50 (rat): > 5,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (rat): > 5540 ppm Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes

Acute dermal toxicity	:	LD50 (rabbit): > 2,000 mg/kg Assessment: The component/mixture is low toxic after single contact with skin.

142-82-5:

Acute oral toxicity	:	LD50 (rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 401 Symptoms: Salivation GLP: yes Remarks: Information given is based on data obtained from similar substances.
Acute inhalation toxicity	:	LC50 (rat, male and female): > 73.5 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (rabbit, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Remarks: Information given is based on data obtained from similar substances.

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation in susceptible persons.

Components:

108-88-3:
Species: rabbit
Exposure time: 4 h
Result: Irritating to skin.

64742-49-0:
Species: rabbit
Exposure time: 24 h
Classification: Irritating to skin
Result: Skin irritation
GLP: yes
Remarks: Skin irritation, Category 2

64742-89-8:
Species: rabbit
Exposure time: 4 h
Classification: Irritating to skin
Result: Irritating to skin
GLP: yes

68410-97-9:
Result: Irritating to skin.
Remarks: No data available

110-82-7:
Species: rabbit
Result: Irritating to skin.

142-82-5:
Species: rabbit
Exposure time: 24 h
Classification: Irritating to skin.
Method: OECD Test Guideline 404
Result: Irritating to skin.
GLP: yes
Remarks: Based on a similar product formulation.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Components:

108-88-3:
Species: rabbit
Result: Slightly irritating to eyes
Classification: Not irritating to eyes
Method: OECD Test Guideline 405

64742-49-0:
Species: rabbit
Result: Not irritating to eyes
Exposure time: 1 s
Classification: Not irritating to eyes
Method: In vivo
GLP: yes
Remarks: No eye irritation

64742-89-8:
Species: rabbit
Result: Not irritating to eyes
Exposure time: 1 - 2 s
Classification: Not irritating to eyes
GLP: yes
Remarks: No eye irritation

68410-97-9:
Result: Irritating to eyes.
Remarks: No data available

110-82-7:
Species: rabbit
Result: No eye irritation

142-82-5:
Species: rabbit
Result: Not irritating to eyes
Classification: Not irritating to eyes
Method: OECD Test Guideline 405
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Respiratory or skin sensitisation

Components:

108-88-3:
Test Type: Maximisation Test (GPMT)
Species: guinea pig
Result: Does not cause skin sensitisation.
GLP: yes

64742-49-0:
Test Type: Buehler Test
Species: guinea pig
Assessment: Does not cause skin sensitisation.
Method: In vivo
Result: Did not cause sensitisation on laboratory animals.
GLP: yes
Remarks: not sensitising

64742-89-8:
Test Type: Buehler Test
Species: guinea pig
Assessment: Does not cause skin sensitisation.
Result: Did not cause sensitisation on laboratory animals.
GLP: yes
Remarks: not sensitising

110-82-7:
Test Type: Buehler Test
Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.

142-82-5:
Test Type: Maximization test
Species: guinea pig
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.
Remarks: Based on a similar product formulation.

Germ cell mutagenicity

Components:

108-88-3:

Genotoxicity in vitro	:	Test Type: Mammalian cell gene mutation assay Test species: Mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative
	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	:	Test Type: Chromosome aberration assay in vivo Test species: rat Cell type: Bone marrow Application Route: Intraperitoneal Exposure time: 1 or 5 d Dose: 0, 0.025, 0.082, 0.247 mL/kg Result: negative
		Test Type: Dominant lethal assay Test species: mouse (male) Application Route: inhalation (vapour) Exposure time: 6 h/d, 5 d/wk for 8 wks Dose: 0, 100, 400 ppm Method: OECD Test Guideline 478 Result: negative
Germ cell mutagenicity-Assessment	:	Did not show mutagenic effects in animal experiments.

64742-49-0:

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative
	:	Test Type: Mammalian cell gene mutation assay Test species: Mouse lymphoma cells Metabolic activation: with and without metabolic activation Result: negative

Genotoxicity in vivo	:	Test Type: In vivo micronucleus test Test species: rat Application Route: Inhalation Dose: 0, 2000, 10000 and 20000 mg/m³ Result: negative GLP: yes
Germ cell mutagenicity-Assessment	:	Animal testing did not show any mutagenic effects.

64742-89-8:

Genotoxicity in vivo	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: No data available
	:	Test Type: Mammalian cell gene mutation assay Test species: Mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: no
Genotoxicity in vivo	:	Test Type: In vivo micronucleus test Test species: rat (male and female) Application Route: Inhalation Exposure time: 6 hours/day Dose: 0, 2000, 10000, 20000 mg/m³ Result: negative GLP: yes
Germ cell mutagenicity-Assessment	:	Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

68410-97-9:

Germ cell mutagenicity-Assessment	:	Mutagenicity classification not possible from current data

110-82-7:

Genotoxicity in vitro	:	Test Type: Mammalian cell gene mutation assay Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	:	Test Type: Chromosome aberration assay in vivo Test species: rat Cell type: Bone marrow

Application Route: inhalation (vapour)
Exposure time: 6 h/d, 5 d
Result: negative

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

142-82-5:

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Test species: Rat liver
Metabolic activation: Without metabolic activation
Method: OECD Test Guideline 473
Result: negative

: Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Germ cell mutagenicity- Assessment : Did not show mutagenic effects in animal experiments.

Carcinogenicity

Components:

108-88-3:

Species: rat, (male and female)
Application Route: inhalation (vapour)
Exposure time: 103 wks
Dose: 0, 600, 1200 ppm
Frequency of Treatment: 6.5 h/d, 5 d/wk
NOAEL: No observed adverse effect level: 1,200 ppm

Method: OECD Test Guideline 453
Result: did not display carcinogenic properties
Symptoms: Erosion of nasal epithelium
GLP: yes

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

64742-49-0:

Species: mouse, (male)
Application Route: Dermal
Exposure time: 102 wk
Dose: 0.05 ml neat
Frequency of Treatment: 3 times per wk
NOAEL: 0.05

Method: OECD Test Guideline 451
Result: did not display carcinogenic properties
GLP: No data available

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

64742-89-8:
Species: mouse, (male)
Application Route: Dermal
Exposure time: 102 wk
Dose: 0.05 ml neat
Method: OECD Test Guideline 453
Result: did not display carcinogenic properties
GLP: No data available
Remarks: Category 1B

68410-97-9:
Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

110-82-7:
Species: mouse
Application Route: Dermal
Exposure time: 45 wks
Dose: 100 ul
Frequency of Treatment: 3 times/wk
Result: Weak tumor promoter

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

142-82-5:
Remarks: This information is not available.

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

Reproductive toxicity

Components:

108-88-3:
Effects on fertility : Test Type: Two-generation study
Species: rat, male and female
Application Route: Inhalation
Dose: 0, 100, 500, 2000 ppm
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEC: 500 ppm
General Toxicity F1: NOAEC: 500 ppm
Fertility: NOAEC: 2,000 ppm

Symptoms: Reduced maternal body weight gain.
Reduced offspring weight gain.
Method: OECD Test Guideline 416
Result: Animal testing did not show any effects on fertility.
GLP: yes

Test Type: Fertility
Species: rat, male and female
Application Route: inhalation (vapour)
Dose: 0, 600, 1200 ppm
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEC: 600 ppm
Symptoms: Decreased sperm count
Result: Animal testing did not show any effects on fertility.

Effects on foetal development : Species: rat
Application Route: inhalation (vapour)
Dose: 0, 250, 750, 1500, 3000 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
General Toxicity Maternal: NOAEC: 750 ppm
Developmental Toxicity: NOAEC: 750 ppm
Symptoms: Maternal toxicity, Reduced body weight, Skeletal malformations.
GLP: yes

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

64742-49-0:
Effects on fertility : Species: rat
Application Route: Inhalation
Dose: 0, 5000, 10000, 20000 mg/m³
Duration of Single Treatment: 6 h
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEC: > 20,000
General Toxicity F1: NOAEC: > 20,000
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development : Species: rat
Application Route: Inhalation
Dose: 2563, 7960, 23900 mg/m³
Duration of Single Treatment: 13 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOAEL: 23,900
Embryo-foetal toxicity.: NOAEL: 23,900

Method: OECD Test Guideline 414
Result: No teratogenic effects.
GLP: yes

Reproductive toxicity - Assessment : No toxicity to reproduction
No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

64742-89-8:

Effects on fertility : Test Type: Two-generation study
Species: rat, male and female
Application Route: vapour
Dose: 0, 5000, 10000, 20000 mg/m³
Duration of Single Treatment: 6 h
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEC: > 20,000 mg/m³
General Toxicity F1: NOAEC: > 20,000 mg/m³
Symptoms: No adverse effects.
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development : Species: rat
Application Route: Inhalation
Dose: 2653, 7960, 23900 mg/m³
Duration of Single Treatment: 6 h
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOAEL: 23,900 mg/m³
Embryo-foetal toxicity.: NOAEL: 23,900 mg/m³
Symptoms: No malformations were observed.
Method: OECD Test Guideline 414
GLP: yes

68410-97-9:

Reproductive toxicity - Assessment : Fertility classification not possible from current data.
Embryotoxicity classification not possible from current data.

110-82-7:

Effects on fertility : Test Type: Two-generation study
Species: rat
Application Route: vapour
Frequency of Treatment: 5 days/week
General Toxicity - Parent: NOAEC: 500 ppm

Effects on foetal development : Test Type: Fertility/early embryonic development
Species: rat
Application Route: vapour
Duration of Single Treatment: 10 d
Developmental Toxicity: NOAEC: 7,000 ppm
Method: OECD Test Guideline 414
GLP: yes

Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

142-82-5:

Effects on fertility	:	Test Type: Two-generation study Species: rat, male and female Application Route: vapour Dose: 0, 900, 3000, 9000 ppm Frequency of Treatment: 5 days/week General Toxicity - Parent: NOAEC: 3,000 ppm General Toxicity F1: NOAEC: 3,000 ppm Fertility: NOAEC: 9,000 ppm Symptoms: Reduced maternal body weight gain. Reduced offspring weight gain. Method: OECD Test Guideline 416 Result: No reproductive effects. GLP: yes Remarks: Information given is based on data obtained from similar substances.
Effects on foetal development	:	Species: mouse Application Route: inhalation (vapour) Dose: 0, 900, 3000, 9000 ppm Duration of Single Treatment: 10 d Frequency of Treatment: 6 hr/day General Toxicity Maternal: NOAEC: 900 ppm Developmental Toxicity: NOAEC: 3,000 ppm Symptoms: Skeletal malformations. Method: OECD Test Guideline 414 GLP: yes Remarks: Information given is based on data obtained from similar substances.
Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility. Embryotoxicity classification not possible from current data.

STOT - single exposure

Product:

No data available

Components:

108-88-3:

Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

64742-49-0:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

64742-89-8:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

68410-97-9:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness. The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

110-82-7:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

142-82-5:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Product:

No data available

Components:

108-88-3:
Exposure routes: Inhalation
Target Organs: Auditory system, Eyes
Assessment: May cause damage to organs through prolonged or repeated exposure. The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Components:

No data available

Components:

No data available

Components:

No data available

Components:

No data available

Components:

No data available

Repeated dose toxicity

Components:

108-88-3:
Species: mouse, male and female
NOAEL: 625 mg/kg
LOAEL: 1,250 mg/kg
Application Route: Oral
Exposure time: 13 wks
Number of exposures: 5 d/wk
Dose: 312, 625, 1250, 2500, 5000
Group: yes
GLP: yes
Symptoms: death, Increased liver weight, ataxia, hypoactivity, hypothermia

Species: rat, male and female
NOAEL: 300
Application Route: inhalation (vapour)
Exposure time: 6, 12, or 18 mths
Number of exposures: 6 h/d, 5 d/wk
Dose: 0, 30, 100, 300 ppm
Method: OECD Test Guideline 453

Repeated dose toxicity - Assessment : Causes skin irritation.

64742-49-0:
Species: rat, male
NOAEL: < 500 mg/kg
Application Route: Oral
Exposure time: 4 wk
Number of exposures: 5 d/wk
Dose: 500 or 2000 mg/kg/day
Symptoms: nephropathy

64742-89-8:
Species: rat, male and female
NOAEL: 1402
Application Route: inhalation (vapour)
Test atmosphere: vapour
Exposure time: 13 weeks
Number of exposures: 6 hours/day, 5 days/week
Dose: 322, 1402, 9869 mg/m3
GLP: yes
Target Organs: Kidney
Symptoms: Nasal and ocular discharge

110-82-7:
Species: rat
NOAEL: 7000 ppm
Application Route: inhalation (vapour)
Exposure time: 90 d
Number of exposures: 6 h/d, 5 d/wk

142-82-5:
Species: rat, male
NOAEL: 12470 mg/m3
Application Route: inhalation (vapour)
Exposure time: 16 wks
Number of exposures: 12 h/d, 7 d/wk
Dose: 0, 12470 mg/3

Repeated dose toxicity - Assessment : Causes skin irritation.

Aspiration toxicity

Components:

108-88-3:
Aspiration Toxicity - Category 1

64742-49-0:
May be fatal if swallowed and enters airways.

64742-89-8:
Aspiration Toxicity - Category 1

68410-97-9:
May be fatal if swallowed and enters airways.

110-82-7:
The substance or mixture is known to cause human aspiration toxicity hazards has to be regarded as if it causes a human aspiration toxicity hazard.

142-82-5:
Aspiration Toxicity - Category 1

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause cotic effects., Solvents may degrease the skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

108-88-3:

Toxicity to fish	:	LC50 (Oncorhynchus kisutch (coho salmon): 5.5 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia): 3.78 mg/l Exposure time: 48 h Test Type: Renewal
Toxicity to algae	:	EC50 (Chlorella vulgaris (Fresh water algae): 134 mg/l Exposure time: 3 h Test Type: static test
Toxicity to bacteria	:	IC50 (Bacteria): 84 mg/l Exposure time: 24 h Test Type: Static
Ecotoxicology Assessment Acute aquatic toxicity	:	Toxic to aquatic life.

64742-49-0:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout): 10 mg/l Exposure time: 96 h Analytical monitoring: yes Method: Static GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea): 4.5 mg/l Exposure time: 48 h Analytical monitoring: yes Method: Static GLP: yes Remarks: Toxic to aquatic organisms.
Toxicity to algae	:	EL50 (Selenastrum capricornutum (green algae): 3.71 mg/l Exposure time: 96 h Analytical monitoring: yes Method: Static GLP: yes
Ecotoxicology Assessment Acute aquatic toxicity	:	Toxic to aquatic life.

64742-89-8:

Toxicity to fish	: LL50 (Fish): 8.2 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: yes GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EL50 (Daphnia magna (Water flea): 4.5 mg/l Exposure time: 48 h Test Type: Immobilization Analytical monitoring: yes Test substance: Naphtha GLP: yes
Toxicity to algae	: EL50 (Pseudokirchneriella subcapitata (green algae): 3.7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes GLP: yes
Ecotoxicology Assessment Acute aquatic toxicity	: Harmful to aquatic organisms.

68410-97-9:

Toxicity to fish	: Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	: Remarks: No data available
Toxicity to algae	: Remarks: No data available
Ecotoxicology Assessment Chronic aquatic toxicity	: Toxic to aquatic life with long lasting effects.

110-82-7:

Toxicity to fish	: LC50 (Fathead minnow (Pimephales promelas): 4.53 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea): 0.9 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	: EC50 (Selenastrum capricornutum (green algae): 3.4 mg/l End point: Biomass Exposure time: 72 h

M-Factor (Acute aquatic toxicity)	:	1

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

142-82-5:

Toxicity to fish	:	LC50 (Carassius auratus (goldfish): 4 mg/l Exposure time: 24 h Remarks: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea): 1.5 mg/l Exposure time: 48 h Test Type: static test Remarks: Very toxic to aquatic organisms.
Toxicity to algae	:	Remarks: No data available

Persistence and degradability

Components:

108-88-3:

Biodegradability	:	Inoculum: Sewage Biodegradation: 100 % Remarks: Readily biodegradable

64742-49-0:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 20 mg/l Biodegradation: 74.30 % Exposure time: 56 d GLP: yes Remarks: Inherently biodegradable.

64742-89-8:

Biodegradability	:	Concentration: 49.2 mg/l Result: Readily biodegradable. Biodegradation: 77 % Testing period: 2 d Exposure time: 28 d GLP: yes

110-82-7:

Biodegradability	:	aerobic Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 77 % Exposure time: 28 d

142-82-5:

Biodegradability	:	Primary biodegradation Inoculum: activated sludge Concentration: 100 mg/l Biodegradation: 100 % Testing period: 2 d Exposure time: 25 d Remarks: Readily biodegradable

Bioaccumulative potential

Components:

108-88-3:

Partition coefficient n-octanol/water	:	log Pow: 2.73

64742-49-0:

Partition coefficient n-octanol/water	:	Remarks: No data available

64742-89-8:

Partition coefficient: n-octanol/water	:	log Pow: 2.13 - 4.85 (25° C)

110-82-7:

Bioaccumulation	:	Bioconcentration factor (BCF): 167 Remarks: No bioaccumulation is to be expected (log Pow <= 4).
Partition coefficient n-octanol/water	:	log Pow: 3.44

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.

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.

14. TRANSPORT INFORMATION

IATA (International Air Transport Association): UN1993, FLAMMABLE LIQUID, N.O.S., (TOLUENE, NAPHTHA (PETROLEUM), HYDROTREATED LIGHT), 3 , II

IMDG (International Maritime Dangerous Goods): UN1993, FLAMMABLE LIQUID, N.O.S., (TOLUENE, NAPHTHA (PETROLEUM), HYDROTREATED LIGHT), 3, II, Flash Point: 7°C (45°F)

DOT (Department of Transportation): UN1993, Flammable liquids, n.o.s., (TOLUENE, NAPHTHA (PETROLEUM), HYDROTREATED LIGHT), 3, II

15. REGULATORY INFORMATION

OSHA Hazards : Flammable liquid, Carcinogen, Moderate skin irritant, Moderate eye irritant, Teratogen, Reproductive hazard

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Toluene	108-88-3	1000	1849

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Chronic Health Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

108-88-3	Toluene	54.0758 %
110-82-7	Cyclohexane	1.1492 %

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

108-88-3	Toluene	54.0758 %
100-41-4	Ethylbenzene	0.0999 %
71-43-2	Benzene	0.0999 %
110-54-3	Hexane	0.0091 %
91-20-3	Naphthalene	0.0009 %
98-82-8	Cumene	0.0002 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

108-88-3	Toluene	54.0758 %
110-82-7	Cyclohexane	1.1492 %
100-41-4	Ethylbenzene	0.0999 %
71-43-2	Benzene	0.0999 %
1330-20-7	Mixed xylenes	0.0597 %
98-82-8	Cumene	0.0002 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

108-88-3	Toluene	54.0758 %
110-82-7	Cyclohexane	1.1492 %
100-41-4	Ethylbenzene	0.0999 %
71-43-2	Benzene	0.0999 %
1330-20-7	Mixed xylenes	0.0597 %
91-20-3	Naphthalene	0.0009 PPM

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

108-88-3	Toluene	54.0758 %
110-82-7	Cyclohexane	1.1492 %
100-41-4	Ethylbenzene	0.0999 %
71-43-2	Benzene	0.0999 %
1330-20-7	Mixed xylenes	0.0597 %
91-20-3	Naphthalene	0.0009 PPM

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

108-88-3	Toluene	54.0758 %

US State Regulations

Massachusetts Right To Know

108-88-3	Toluene	50 - 60 %
110-82-7	Cyclohexane	1 - 5 %
71-43-2	Benzene	0 - 0.1 %

Pennsylvania Right To Know

108-88-3	Toluene	50 - 60 %
64742-49-0	Naphtha (petroleum), hydrotreated light	0 - 50 %
64742-89-8	Solvent naphtha (petroleum), light aliph.	0 - 50 %
68410-97-9	Distillates (petroleum), light distillate hydrotreating process, low-boiling	0 - 50 %
110-82-7	Cyclohexane	1 - 5 %
100-41-4	Ethylbenzene	0 - 0.1 %
71-43-2	Benzene	0 - 0.1 %
1330-20-7	Mixed xylenes	0 - 0.1 %

New Jersey Right To Know

108-88-3	Toluene	50 - 60 %
64742-49-0	Naphtha (petroleum), hydrotreated light	0 - 50 %
64742-89-8	Solvent naphtha (petroleum), light aliph.	0 - 50 %
68410-97-9	Distillates (petroleum), light distillate hydrotreating process, low-boiling	0 - 50 %
110-82-7	Cyclohexane	1 - 5 %

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

100-41-4	Ethylbenzene
71-43-2	Benzene
91-20-3	Naphthalene
98-82-8	Cumene

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

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

The components of this product are reported in the following inventories:

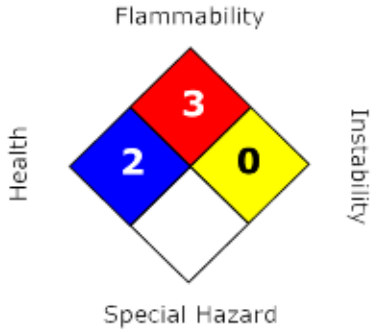
1907/2006 (EU)	:	n (Negative listing) (Not in compliance with the inventory)
Switzerland. New notified substances and declared preparations	:	y (positive listing) (The formulation contains substances listed on the Swiss Inventory)
United States TSCA Inventory	:	y (positive listing) (On TSCA Inven-tory)
Canadian Domestic Substances List (DSL)	:	y (positive listing) (All components of this product are on the Canadian DSL.)
Australia Inventory of Chemical Substances (AICS)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
New Zealand. Inventory of Chemical Substances	:	n (Negative listing) (Not in compliance with the inventory)
Japan. ENCS - Existing and New Chemical Substances Inventory	:	n (Negative listing) (Not in compliance with the inventory)
Japan. ISHL - Inventory of Chemical Substances (METI)	:	n (Negative listing) (Not in compliance with the inventory)

Korea. Korean Existing Chemicals Inventory (KECI)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
China. Inventory of Existing Chemical Substances in China (IECSC)	:	y (positive listing) (On the inventory, or in compliance with the inventory)

16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	**2***
FLAMMABILITY	**3**
PHYSICAL HAZARD	**0**

0 = Not Significatnt, 1 = Slight
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Material number:
M4074-BK

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
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philipines 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 Compositon, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50		Lethal Concentration 50%	