



SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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| PRODUCT NAME | EXTRA SLOW URETHANE REDUCER |
| PRODUCT CODE | ADV 118-53 |
| RECOMMENDED USE | SOLVENT |

MANUFACTURER'S INFORMATION

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|--------------|--|
| Company name | INTERNATIONAL AUTOBODY MARKETING GROUP |
| Address | 1505 NORTH HAYDEN RD, SUITE 111 SCOTTSDALE, AZ 85257 UNITED STATES |

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| Website | www.advantagerefinish.com |
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| Telephone | 1-87-REFINISH 480.451.4451 |
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| Emergency phone number | 800-424-9300 ChemTrec EMERGENCY 24 Hrs. |
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

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| Flammable liquids | : Category 2 |
| Skin irritation | : Category 2 |
| Eye irritation | : Category 2A |
| Germ cell mutagenicity | : Category 1B |
| Carcinogenicity | : Category 2 |
| Reproductive toxicity | : Category 2 |
| Specific target organ toxicity - single exposure | : Category 3 (Central nervous system) |
| Specific target organ toxicity - repeated exposure | : Category 2 (Liver, Kidney, Central nervous system, Auditory system) |
| Specific target organ toxicity - repeated 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.
H340 May cause genetic defects.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Liver, Kidney, Central nervous system, Auditory system) through prolonged or repeated exposure.
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.

P501 Dispose of contents/ container to an approved waste disposal plant.

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

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| Appearance | liquid |
| Colour | clear |
| Hazard Summary | No information available. |

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

| CAS-No. | Chemical Name | Concentration (%) |
|------------|--|-------------------|
| 67-64-1 | Acetone | 30 - 50 |
| 64742-49-0 | Naphtha (pet), hydrotreated lt | 0 - 20 |
| 64742-89-8 | Solvent naphtha (pet), lt aliph. | 0 - 20 |
| 68410-97-9 | Distillates, pet, lt dist hydrotreat process, low-boil | 0 - 20 |
| 108-65-6 | Glycol ether PM acetate | 10 - 20 |
| 108-88-3 | Toluene | 10 - 20 |
| 110-19-0 | Isobutyl acetate | 10 - 20 |
| 123-86-4 | n-Butyl acetate | 5 - 10 |
| 1330-20-7 | Mixed xylenes | 5 - 10 |
| 100-41-4 | Ethylbenzene | 1 - 5 |
| 142-82-5 | Heptane | 0.1 - 1 |

Synonyms : CP 81-03,

Special Notes: : Functionally equivalent petroleum streams may be found in this preparation at varying concentrations. Mixed Xylenes contains the isomers o-, m-, p- Xylene, and Ethylbenzene. Trace amounts of Toluene and Benzene may also be present as impurities.

SECTION 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

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| | 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. |

SECTION 5. FIREFIGHTING MEASURES

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| 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 fire-fighting if necessary.

NFPA Flammable and Combustible Liquids Classification:

Flammable Liquid Class IB

SECTION 6. ACCIDENTAL RELEASE MEASURES

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| 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). |

SECTION 7. HANDLING AND STORAGE

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| 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. Container may be opened only under exhaust ventilation hood. Open drum carefully as content may be under pressure. |
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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 re-sealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| CAS-No. | Components | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|------------|----------------------------------|----------------------------------|--|-----------|
| 67-64-1 | Acetone | TWA | 500 ppm | ACGIH |
| | | STEL | 750 ppm | ACGIH |
| | | TWA | 250 ppm 590 mg/m ³ | NIOSH REL |
| | | TWA | 1,000 ppm 2,400 mg/m ³ | OSHA Z-1 |
| | | TWA | 750 ppm 1,800 mg/m ³ | OSHA P0 |
| | | STEL | 1,000 ppm 2,400 mg/m ³ | OSHA P0 |
| 64742-49-0 | Naphtha (pet), hydrotreated lt | TWA | 500 ppm 2,000 mg/m ³ | OSHA Z-1 |
| | | TWA | 400 ppm 1,600 mg/m ³ | OSHA P0 |
| 64742-89-8 | Solvent naphtha (pet), lt aliph. | TWA | 500 ppm 2,000 mg/m ³ | OSHA Z-1 |
| | | TWA | 400 ppm 1,600 mg/m ³ | OSHA P0 |
| 108-65-6 | Glycol ether PM acetate | TWA | 50 ppm | US WEEL |
| 108-88-3 | Toluene | TWA | 20 ppm | ACGIH |
| | | TWA | 100 ppm 375 mg/m ³ | NIOSH REL |
| | | ST | 150 ppm 560 mg/m ³ | 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 |
| 110-19-0 | Isobutyl acetate | TWA | 150 ppm | ACGIH |
| | | TWA | 150 ppm 700 mg/m3 | NIOSH REL |
| | | TWA | 150 ppm 700 mg/m3 | OSHA Z-1 |
| | | TWA | 150 ppm 700 mg/m3 | OSHA P0 |
| 123-86-4 | n-Butyl acetate | TWA | 150 ppm | ACGIH |
| | | STEL | 200 ppm | ACGIH |
| | | ST | 200 ppm 950 mg/m3 | NIOSH REL |
| | | TWA | 150 ppm 710 mg/m3 | NIOSH REL |
| | | TWA | 150 ppm 710 mg/m3 | OSHA Z-1 |
| | | TWA | 150 ppm 710 mg/m3 | OSHA P0 |
| | | STEL | 200 ppm 950 mg/m3 | OSHA P0 |
| 1330-20-7 | Mixed xylenes | TWA | 100 ppm | ACGIH |
| | | STEL | 150 ppm | ACGIH |
| | | TWA | 100 ppm 435 mg/m3 | OSHA Z-1 |
| 100-41-4 | Ethylbenzene | TWA | 20 ppm | ACGIH |
| | | STEL | 125 ppm | ACGIH |
| | | TWA | 100 ppm 435 mg/m3 | NIOSH REL |
| | | ST | 125 ppm 545 mg/m3 | NIOSH REL |
| | | TWA | 100 ppm 435 mg/m3 | OSHA Z-1 |
| | | TWA | 100 ppm 435 mg/m3 | OSHA P0 |
| | | STEL | 125 ppm 545 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 |
|--------------|----------|--|---------------------|--|---------------------------|-----------|
| Acetone | 67-64-1 | Acetone | Urine | End of shift (As soon as possible after exposure ceases) | 50 mg/l | ACGIH BEI |
| 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 |
| Ethylbenzene | 100-41-4 | Sum of mandelic acid and phenyl glyoxylic acid | Urine | End of shift at end of work-week | 0.7 g/g creatinine | ACGIH BEI |

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
In the case of vapour formation use a respirator with an approved filter.

Hand protection

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| 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. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| Appearance | : liquid |
| Colour | : clear |
| Odour | : No data available |
| Odour Threshold | : No data available |
| pH | : No data available |
| Freezing Point | : No data available |
| Boiling Point (Boiling point/boiling range) | : 56 - 245 °C (133 - 473 °F) |
| Flash point | : < -18 °C (-0.40 °F) |
| Evaporation rate | : 1 Ethyl Ether |
| Flammability (solid, gas) | : No data available |
| Burning rate | : No data available |
| Upper explosion limit | : 12.8 %(V) Calculated Explosive Limit |
| Lower explosion limit | : 1 %(V) Calculated Explosive Limit |

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| Vapour pressure | : No data available |
| Relative vapour density | : > 1(Air = 1.0) |
| Relative density | : 0.827 @ 77.00 °F (77.00 °F) |
| Density | : 0.827 g/cm ³ @ 25 °C (77 °F) |
| Bulk density | : No data available |
| Water solubility | : No data available |
| Solubility in other sol- vents | : No data available |
| Partition coefficient: n- octanol/water | : No data available |
| Auto-ignition temperature | : No data available |
| Thermal decomposition | : No data available |

SECTION 10. STABILITY AND REACTIVITY

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| Reactivity | : No dangerous reaction known under conditions of normal use. |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : Product will not undergo hazardous polymerization. Vapours may form explosive mixture with air. |
| Conditions to avoid | : Heat, flames and sparks. Exposure to air. Exposure to moisture. Extremes of temperature and direct sunlight. |
| Incompatible materials | : Acids alkalis Amines Ammonia halogens Peroxides Reducing agents Strong oxidizing agents Oxygen aluminum |

nitrates
organic absorbents such as sawdust, peat moss,
ground corn cobs, etc.
Bases
metal salts

SECTION 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 : > 30000 ppm
Exposure time: 4 h
Test atmosphere: gas
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:

67-64-1:

Acute oral toxicity : LD50 (rat): 5,800 mg/kg

Acute inhalation toxicity : LC50 (rat): 76.0 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 : > 7,426 mg/kg

64742-49-0:

Acute oral toxicity : LD50 (rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : Remarks: No data available

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 : Remarks: No data available

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 : LD50 (rat): > 5,000 mg/kg

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (rabbit): > 2,000 mg/kg

108-65-6:

Acute oral toxicity : LD50 (rat): 8,532 mg/kg

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

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

110-19-0:

Acute oral toxicity : LD50 (rat): 13,413 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (rat): 23.4 mg/l
Exposure time: 4 h
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (rabbit): > 17,400 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

123-86-4:

Acute oral toxicity : LD50 (rat): > 5,000 mg/kg

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| | Method: OECD Test Guideline 423 GLP: no |
| Acute inhalation toxicity | : LC50 (rat, male and female): > 21 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes |
| Acute dermal toxicity | : LD50 (rabbit, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes |
| 1330-20-7: | |
| Acute oral toxicity | : LD50 (rat, male): 3,523 mg/kg Method: EU Method B.1 (Acute Toxicity, Oral) GLP: no |
| Acute inhalation toxicity | : LC50 (rat, male): 6700 ppm Exposure time: 4 h Method: Directive 67/548/EEC, Annex V, B.2. Assessment: The component/mixture is moderately toxic after short term inhalation. |
| Acute dermal toxicity | : LD50 (rabbit): 1,100 mg/kg Assessment: The component/mixture is moderately toxic after single contact with skin. |
| 100-41-4: | |
| Acute inhalation toxicity | : LC50 (Mouse, Male): 10 mg/l Exposure time: 4 h Assessment: The component/mixture is moderately toxic after short term inhalation. |
| Acute dermal toxicity | : LD50 (rabbit): 15,433 mg/kg |
| 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: Irritating to skin.

Components:

67-64-1:

Species: rabbit
Exposure time: 24 h
Method: In vivo
Result: Mild skin irritation

64742-49-0:

Species: rabbit
Result: Irritating to skin.

64742-89-8:

Species: rabbit
Exposure time: 4 h
Result: Irritating to skin.

68410-97-9:

Species: rabbit
Result: Irritating to skin.

108-65-6:

Species: rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

108-88-3:

Species: rabbit
Exposure time: 4 h
Result: Irritating to skin.

110-19-0:

Species: rabbit
Result: No skin irritation

123-86-4:

Species: rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: no

1330-20-7:

Species: rabbit
Exposure time: 24 h
Result: Irritating to skin.

100-41-4:

Species: rabbit
Result: Mild skin irritation

142-82-5:

Species: rabbit
Exposure time: 24 h
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: Irritating to eyes.

Components:**67-64-1:**

Species: rabbit
Result: Irritating to eyes.
Exposure time: 24 h

64742-49-0:

Species: rabbit
Result: Irritating to eyes.

64742-89-8:

Species: rabbit
Result: Irritating to eyes.

68410-97-9:

Species: rabbit
Result: Irritating to eyes.

108-65-6:

Species: rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

108-88-3:

Species: rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405

110-19-0:

Species: rabbit

Result: No eye irritation

123-86-4:

Species: rabbit

Result: No eye irritation

GLP: yes

1330-20-7:

Species: rabbit

Result: Irritating to eyes.

100-41-4:

Species: rabbit

Result: Mild eye irritation

142-82-5:

Species: rabbit

Result: 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:

67-64-1:

Test Type: Maximization test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

64742-49-0:

Test Type: Buehler Test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

64742-89-8:

Test Type: Buehler Test

Species: guinea pig

Result: Did not cause sensitisation on laboratory animals.

108-65-6:

Test Type: Maximization test

Species: guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

GLP: no

108-88-3:

Test Type: Maximisation Test (GPMT)
Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.
GLP: yes

110-19-0:

Test Type: Maximization test
Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.

123-86-4:

Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.

1330-20-7:

Remarks: No data available

100-41-4:

Remarks: No data available

142-82-5:

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

Germ cell mutagenicity

Components:

67-64-1:

Genotoxicity in vitro : Test Type: Mammalian cell gene mutation assay
Test species: Mouse lymphoma cells
Metabolic activation: Without metabolic activation
Method: OECD Test Guideline 476
Result: negative

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

: Test Type: Chromosome aberration test in vitro
Test species: Chinese hamster ovary (CHO)
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

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| Genotoxicity in vivo | : Test Type: In vivo micronucleus test Test species: mouse Application Route: Oral Exposure time: 13 wk Dose: 5,000, 10,000, 20,000 ppm Result: negative |
| Germ cell mutagenicity-Assessment | : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. |
| 64742-49-0: Germ cell mutagenicity-Assessment | : Mutagenicity classification not possible from current data |
| 64742-89-8: Germ cell mutagenicity-Assessment | : Mutagenicity classification not possible from current data |
| 68410-97-9: Genotoxicity in vitro | : Test Type: Mammalian cell gene mutation assay Test species: mouse lymphoma cells Result: positive |
| Genotoxicity in vivo | : Test Type: In vivo micronucleus test Test species: mouse Method: OECD Test Guideline 474 Result: positive |
| Germ cell mutagenicity-Assessment | : Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals |
| 108-65-6: Genotoxicity in vitro | : Test Type: DNA damage and/or repair Test species: rat hepatocytes Metabolic activation: Without metabolic activation Method: OECD Test Guideline 482 Result: negative GLP: yes |
| Germ cell mutagenicity-Assessment | : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. |
| 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 |

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| Genotoxicity in vivo | : 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 | : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. |
| 110-19-0: Genotoxicity in vitro | : Test Type: Chromosome aberration test in vitro Test species: Chinese hamster lung fibroblasts Metabolic activation: with and without metabolic activation Result: negative |
| Genotoxicity in vivo | : Test Type: In vivo micronucleus test Test species: mouse Application Route: Oral Result: negative |
| Germ cell mutagenicity-Assessment | : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. |
| 123-86-4: Genotoxicity in vitro | : Test Type: Chromosome aberration test in vitro Test species: Chinese hamster lung fibroblasts Metabolic activation: Without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: No data available |
| Genotoxicity in vivo | : Test Type: In vivo micronucleus test Test species: mouse (male and female) Application Route: Oral Dose: 500, 1000, 2000 mg/kg bw Method: OECD Test Guideline 474 Result: negative GLP: yes Test substance: Information given is based on data obtained from similar substances. |
| Germ cell mutagenicity-Assessment | : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. |
| 1330-20-7: Genotoxicity in vitro | : Test Type: Chromosome aberration test in vitro Test species: Chinese hamster ovary (CHO) |

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| | <p>Metabolic activation: with and without metabolic activation</p> <p>Method: Mutagenicity (in vitro mammalian cytogenetic test)</p> <p>Result: negative</p> |
| | <p>: Test Type: Sister chromatid exchange assay in mammalian cells</p> <p>Test species: Chinese hamster ovary (CHO)</p> <p>Metabolic activation: with and without metabolic activation</p> <p>Result: negative</p> |
| Genotoxicity in vivo | <p>: Test Type: Dominant lethal assay</p> <p>Test species: mouse</p> <p>Application Route: Subcutaneous</p> <p>Exposure time: 8 wk</p> <p>Dose: 1.0 mL/kg</p> <p>Method: OECD Test Guideline 478</p> <p>Result: negative</p> <p>GLP: no</p> |
| Germ cell mutagenicity-Assessment | <p>: Animal testing did not show any mutagenic effects.</p> |
| 100-41-4: | |
| Genotoxicity in vitro | <p>: Test Type: Chromosome aberration test in vitro</p> <p>Test species: Chinese hamster ovary (CHO)</p> <p>Metabolic activation: with and without metabolic activation</p> <p>Method: OECD Test Guideline 473</p> <p>Result: negative</p> <p>GLP: no</p> |
| | <p>: Test Type: Mammalian cell gene mutation assay</p> <p>Test species: mouse lymphoma cells</p> <p>Metabolic activation: with and without metabolic activation</p> <p>Method: OECD Test Guideline 476</p> <p>Result: negative</p> <p>GLP: yes</p> |
| Genotoxicity in vivo | <p>: Test Type: In vivo micronucleus test</p> <p>Test species: mouse (male)</p> <p>Application Route: Oral</p> <p>Method: OECD Test Guideline 474</p> <p>Result: negative</p> <p>GLP: yes</p> |
| | <p>Test Type: DNA damage and/or repair</p> |

| | |
|-----------------------------------|--|
| | Test species: mouse (male and female) Application Route: Inhalation Method: OECD Test Guideline 486 Result: negative GLP: yes |
| Germ cell mutagenicity-Assessment | : In vivo tests did not show mutagenic effects |
| 142-82-5: | |
| Genotoxicity in vitro | : 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:

67-64-1:

Species: mouse, (female)
 Application Route: Dermal
 Exposure time: 365 d (90%) or 424 d (100%)
 Dose: 0.1ml 90(71mg) or 100% (79mg)
 Frequency of Treatment: 3 times per wk
 NOAEL: 79

Result: did not display carcinogenic properties

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

64742-49-0:

| | |
|------------------------------|---|
| Carcinogenicity - Assessment | : Not classifiable as a human carcinogen. |
|------------------------------|---|

64742-89-8:

| | |
|------------------------------|---|
| Carcinogenicity - Assessment | : Not classifiable as a human carcinogen. |
|------------------------------|---|

68410-97-9:

Species: mouse
NOAEL: 50 mg/kg bw/day

Method: OECD Test Guideline 451
Result: evidence of carcinogenic activity

Carcinogenicity - Assessment : Possible human carcinogen

108-65-6:

Species: rat, (male and female)
Application Route: inhalation (vapour)
Exposure time: 2 yr
Dose: 0, 300, 1000, 3000 ppm
Frequency of Treatment: 6 hr/d, 5 d/wk
NOAEL: No observed adverse effect level: 3,000 ppm

Method: OECD Test Guideline 453
Result: did not display carcinogenic properties
GLP: yes

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

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.

110-19-0:

Remarks: This information is not available.

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

123-86-4:

Remarks: This information is not available.

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

essment

1330-20-7:

Species: mouse, (male and female)
Application Route: Oral
Exposure time: 103 wk
Dose: 0, 500 or 1000 mg/kg
Frequency of Treatment: 5 days/week
Method: Directive 67/548/EEC, Annex V, B.32.
Result: did not display carcinogenic properties
GLP: No data available

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

100-41-4:

Species: mouse, (male and female)
Application Route: Inhalation
Exposure time: 103 wk
Activity duration: 6 h
Dose: 0, 75, 250, 750 ppm
Frequency of Treatment: 5 days/week
NOAEL: 250 ppm

Method: OECD Test Guideline 453
Result: evidence of carcinogenic activity
Symptoms: increased incidences of alveolar/bronchiolar neoplasms, increase incidence of hepatocellular carcinomas
GLP: yes

Carcinogenicity - Assessment : Suspected human carcinogens

142-82-5:

Remarks: This information is not available.

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

Reproductive toxicity

Components:

67-64-1:

Effects on fertility : Species: rat, male
Application Route: oral
Dose: 0, 5000, 10000 mg/L
Frequency of Treatment: 7 days/week
General Toxicity - Parent: LOAEL: 10,000
Fertility: 10,000

| | |
|--|---|
| Effects on foetal development | <ul style="list-style-type: none"> : Species: rat Application Route: Inhalation Dose: 0, 440, 2200, 11000 ppm Frequency of Treatment: 7 days/week General Toxicity Maternal: NOAEC: 2,200 ppm Teratogenicity: NOAEC: 11,000 ppm Embryo-foetal toxicity.: NOAEC: 2,200 ppm Method: OECD Test Guideline 414 Result: No teratogenic potential. GLP: No data available |
| Reproductive toxicity - Assessment | <ul style="list-style-type: none"> : No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments. |
| 64742-49-0: Reproductive toxicity - Assessment | <ul style="list-style-type: none"> : Fertility classification not possible from current data. Embryotoxicity classification not possible from current data. |
| 64742-89-8: Reproductive toxicity - Assessment | <ul style="list-style-type: none"> : Fertility classification not possible from current data. Embryotoxicity classification not possible from current data. |
| 68410-97-9: Reproductive toxicity - Assessment | <ul style="list-style-type: none"> : Fertility classification not possible from current data. Embryotoxicity classification not possible from current data. |
| 108-65-6: Effects on fertility | <ul style="list-style-type: none"> : Species: rat Application Route: Oral Dose: 0, 100, 300, 1000 mg/kg General Toxicity - Parent: NOAEL: 1,000 mg/kg bw General Toxicity F1: NOAEL: 1,000 mg/kg bw Method: OECD Test Guideline 422 Result: Animal testing did not show any effects on fertility. GLP: yes Remarks: Information given is based on data obtained from similar substances. |
| Effects on foetal development | <ul style="list-style-type: none"> : Species: rat Application Route: Inhalation Dose: 0, 500, 2000, 4000 ppm Duration of Single Treatment: 9 d Frequency of Treatment: 6 hr/day General Toxicity Maternal: NOAEL: 500 ppm Teratogenicity: NOAEL: > 4,000 ppm |

| | |
|--|--|
| | GLP: yes |
| Reproductive toxicity - Assessment | : No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments. |
| 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. |
| 110-19-0: Effects on fertility | : Test Type: Two-generation study Species: rat Application Route: Inhalation |

| | |
|---|---|
| | Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEL: 2,500 ppm Method: OECD Test Guideline 416 |
| Reproductive toxicity - Assessment | : No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments. |
| 123-86-4: Effects on fertility | : Species: rat, male and female Application Route: Inhalation Dose: 0, 750, 1500, 2000 ppm Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: 750 ppm General Toxicity F1: NOAEC: 750 ppm Fertility: NOAEC: 2,000 ppm Early Embryonic Development: NOAEC: 750 ppm Symptoms: Effect on reproduction capacity. Method: OECD Test Guideline 416 GLP: yes |
| Effects on foetal development | : Species: rat, male and female Application Route: vapour Dose: 500, 1500, 3000 ppm Duration of Single Treatment: 6 h Frequency of Treatment: 5 days/week GLP: yes |
| Reproductive toxicity - Assessment | : Fertility classification not possible from current data. Embryotoxicity classification not possible from current data. |
| 1330-20-7: Effects on fertility | : Test Type: Two-generation study Species: rat, male and female Application Route: Inhalation Dose: 0, 25, 100 and 500 ppm Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: > 500 ppm General Toxicity F1: NOAEC: > 500 ppm Early Embryonic Development: NOAEC: > 500 ppm Result: No reproductive effects. |
| Effects on foetal development | : Species: rat Application Route: Inhalation Dose: 0, 100, 500, 1000 or 2000 ppm Duration of Single Treatment: 14 d |

| | |
|--|---|
| | <p>Frequency of Treatment: 6 hr/day General Toxicity Maternal: NOAEC: 500 ppm Teratogenicity: NOAEC: > 2,000 Developmental Toxicity: NOAEC: 100 ppm Result: No teratogenic effects., Developmental toxicity occurred at maternal toxicity dose levels</p> |
| Reproductive toxicity - Assessment | : Animal testing did not show any effects on fertility. Damage to fetus not classifiable |
| 100-41-4: Effects on fertility | : Test Type: One generation study Species: rat, male and female Application Route: Inhalation Dose: 0, 100, 500 and 1000 ppm Duration of Single Treatment: 6 h General Toxicity - Parent: NOAEC: 1,000 ppm General Toxicity F1: NOAEC: 100 ppm Symptoms: Reduced foetal weight. Reduced offspring weight gain. Method: OECD Test Guideline 415 Result: No reproductive effects. GLP: yes |
| Effects on foetal development | : Species: rat Application Route: Inhalation Dose: 0, 100, 500, 1000, 2000 ppm Duration of Single Treatment: 15 d General Toxicity Maternal: NOAEC: 500 ppm Teratogenicity: NOAEC: 2,000 ppm Developmental Toxicity: NOAEC: 500 ppm Symptoms: Reduced body weight Method: OECD Test Guideline 414 Result: Developmental toxicity occurred at maternal toxicity dose levels GLP: No data available |
| Reproductive toxicity - Assessment | : Fertility classification not possible from current data. Embryotoxicity classification not possible from current data. |
| 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. Re- |

duced 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:

67-64-1:

| Exposure routes: | Target Organs: | Assessment: | Remarks: |
|------------------|------------------------|---|----------|
| Inhalation | Central nervous system | 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: | Target Organs: | Assessment: | Remarks: |
|------------------|------------------------|---|----------|
| Inhalation | Central nervous system | May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, cate- | |

| | | | |
|--|--|-------------------------------|--|
| | | gory 3 with narcotic effects. | |
|--|--|-------------------------------|--|

64742-89-8:No data available

68410-97-9:

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

108-65-6:No data available

108-88-3:

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

110-19-0:

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

123-86-4:

| Exposure routes: | Target Organs: | Assessment: | Remarks: |
|-------------------------|-----------------------|--------------------|-----------------|
|-------------------------|-----------------------|--------------------|-----------------|

| | | | |
|------------|------------------------|--|--|
| Inhalation | Central nervous system | May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. | |
|------------|------------------------|--|--|

1330-20-7:

| Exposure routes: | Target Organs: | Assessment: | Remarks: |
|------------------|--------------------|---|----------|
| Inhalation | Respiratory system | May cause respiratory irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. | |

100-41-4:No data available

142-82-5:

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

STOT - repeated exposure

Product:No data available

Components:

67-64-1:No data available

64742-49-0:No data available

64742-89-8:No data available

68410-97-9:No data available

108-65-6:No data available

108-88-3:

| Exposure routes: | Target Organs: | Assessment: | Remarks: |
|------------------|--------------------------|---|----------|
| Inhalation | Auditory system, Eyes | 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. | |

110-19-0:No data available

123-86-4:No data available

1330-20-7:

| Exposure routes: | Target Organs: | Assessment: | Remarks: |
|------------------|---------------------------------------|---|----------|
| | Liver, Kidney, Central nervous system | 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. | |

100-41-4:

| Exposure routes: | Target Organs: | Assessment: | Remarks: |
|------------------|----------------|-------------|----------|
|------------------|----------------|-------------|----------|



| | | | |
|--|-----------------|--|--|
| | Auditory system | 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. | |
|--|-----------------|--|--|

142-82-5:No data available

Repeated dose toxicity

Components:

67-64-1:

Species: mouse, male

NOAEL: 20000

Application Route: Oral

Exposure time: 13 wk

Number of exposures: daily

Dose: 1250, 2500, 5000, 10000, 20000

Method: OECD Test Guideline 408

GLP: No data available

Species: mouse, female

NOAEL: 20000

LOAEL: 50000

Application Route: Oral

Exposure time: 13 wk

Number of exposures: daily

Dose: 2500, 5000, 10000, 20000, 5000

Method: OECD Test Guideline 408

GLP: No data available

Repeated dose toxicity - : Causes mild skin irritation., Causes serious eye irritation.
Assessment tion.

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

108-65-6:

Species: rat, male and female
NOAEL: > 1,000 mg/kg
Application Route: Oral
Dose: 0, 100, 300, 1000 mg/kg
Method: OECD Test Guideline 422

108-88-3:

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 - : Causes skin irritation.
Assessment

110-19-0:

Species: rat
NOAEL: 316 mg/kg
Application Route: Oral
Exposure time: 92 d

123-86-4:

Species: rat, male and female
NOAEL: 500
Application Route: inhalation (vapour)
Exposure time: 13 wk
Number of exposures: 6 h/d, 5d/wk
Dose: 500, 1500, 3000 ppm
GLP: yes
Symptoms: oral or nasal discharge

1330-20-7:

Species: rat, male and female
NOAEL: 250 mg/kg
Application Route: Oral
Exposure time: 103 wk
Number of exposures: 5 d/wk
Dose: 0, 250 or 500 mg/kg
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

100-41-4:

Species: rat, male and female

NOAEL: 75 mg/kg
Application Route: Oral
Exposure time: 28 d
Dose: 75, 250 and 750 mg/kg bw/day
Method: OECD Test Guideline 407
GLP: yes
Symptoms: Increased kidney and liver weights

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 - : Causes skin irritation.
Assessment

Aspiration toxicity

Components:

64742-49-0:

May be fatal if swallowed and enters airways.

64742-89-8:

May be fatal if swallowed and enters airways.

68410-97-9:

May be fatal if swallowed and enters airways.

108-88-3:

Aspiration Toxicity - Category 1

1330-20-7:

May be fatal if swallowed and enters airways.

100-41-4:

May be fatal if swallowed and enters airways.

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 narcotic effects., Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

67-64-1:

| | |
|---|---|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): 6,100 mg/l Exposure time: 48 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 7,630 mg/l Exposure time: 48 h Test substance: Acetone |
| Toxicity to algae | : Remarks: No data available |

64742-49-0:

| | |
|---|--|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h |
| Toxicity to algae | : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.71 mg/l Exposure time: 96 h |

Ecotoxicology Assessment

| | |
|--------------------------|--|
| Acute aquatic toxicity | : Toxic to aquatic life. |
| Chronic aquatic toxicity | : Toxic to aquatic life with long lasting effects. |

64742-89-8:

| | |
|---|---|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): 8.2 mg/l Exposure time: 96 h Test Type: semi-static test |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h Test Type: Immobilization Analytical monitoring: yes |
| Toxicity to algae | : EC50 (Pseudokirchneriella subcapitata (green algae)): |

| | |
|---|--|
| | 3.7 mg/l Exposure time: 96 h Test Type: static test |
| Ecotoxicology Assessment | |
| Acute aquatic toxicity | : Toxic to aquatic life. |
| Chronic aquatic toxicity | : Toxic to aquatic life with long lasting effects. |
| 68410-97-9: | |
| Toxicity to fish | : LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h |
| Toxicity to algae | : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| Ecotoxicology Assessment | |
| Acute aquatic toxicity | : Toxic to aquatic life. |
| Chronic aquatic toxicity | : Toxic to aquatic life with long lasting effects. |
| 108-65-6: | |
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 500 mg/l Exposure time: 48 h Test Type: Immobilization |
| Toxicity to algae | : EC50 (Selenastrum capricornutum (green algae)): > 1,000 mg/l End point: Growth rate Exposure time: 96 h Test Type: static test |
| 108-88-3: | |
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l Exposure time: 96 h Test Type: flow-through test |

| | |
|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (<i>Ceriodaphnia dubia</i>): 3.78 mg/l Exposure time: 48 h Test Type: Renewal |
| Toxicity to algae | : EC50 (<i>Chlorella vulgaris</i> (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.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

110-19-0:

Toxicity to fish : LC50 (*Oryzias latipes* (Japanese medaka)): 17 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : (*Daphnia magna* (Water flea)): 25 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (*Pseudokirchneriella subcapitata*): 370 mg/l
Exposure time: 72 h
Test Type: static test

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

123-86-4:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 18 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 44 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (*Desmodesmus subspicatus* (green algae)): 674.7 mg/l

| | |
|--|--|
| | End point: Growth rate Exposure time: 72 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (<i>Daphnia magna</i> (Water flea)): 23 mg/l Exposure time: 21 d |
| Toxicity to bacteria | : EC 50 (<i>Tetrahymena pyriformis</i> (Ciliate)): 356 mg/l Exposure time: 40 h Test Type: Static |
| Ecotoxicology Assessment Acute aquatic toxicity | : Harmful to aquatic life. |
| Chronic aquatic toxicity | : Harmful to aquatic life with long lasting effects. |
| 1330-20-7: | |
| Toxicity to fish | : LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 2.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (<i>Daphnia magna</i> (Water flea)): 1 mg/l Exposure time: 24 h Test Type: static test Method: OECD Test Guideline 202 |
| Toxicity to algae | : EC50 (<i>Pseudokirchneriella subcapitata</i>): 4.36 mg/l End point: Growth rate Exposure time: 73 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes |
| Ecotoxicology Assessment Acute aquatic toxicity | : Toxic to aquatic life. |
| Chronic aquatic toxicity | : Toxic to aquatic life with long lasting effects. |
| 100-41-4: | |
| Toxicity to fish | : LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 4.2 mg/l Exposure time: 96 h Test Type: semi-static test |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (<i>Daphnia magna</i> (Water flea)): 1.8 mg/l Exposure time: 48 h Test Type: static test |

Toxicity to algae : EC50 (*Pseudokirchneriella subcapitata*): 5.4 mg/l
Exposure time: 72 h
Test Type: static test

Toxicity to bacteria : Remarks: No data available

Ecotoxicology Assessment
Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : 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

Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.

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

Persistence and degradability

Components:

67-64-1:

Biodegradability : 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

108-65-6:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 76.4 mg/l
Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
GLP: yes

Biochemical Oxygen Demand (BOD) : 0.36 mg/l

Chemical Oxygen Demand (COD) : 1.74 mg/l

108-88-3:

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

110-19-0:

Biodegradability : aerobic
Inoculum: Sewage
Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 20 d

123-86-4:

Biodegradability : Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Chemical Oxygen Demand (COD) : 0.00169 mg/g

BOD/COD : BOD/COD: 72 %

Theoretical Oxygen Demand (ThOD) : 0.0022 mg/g

1330-20-7:

Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 72 %
Exposure time: 20 d

100-41-4:

Biodegradability : Inoculum: activated sludge
Concentration: 22 mg/l
Result: Readily biodegradable.
Biodegradation: 70 %
Exposure time: 28 d
GLP: yes

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:****67-64-1:**

Partition coefficient: n-octanol/water : log Pow: -0.24

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)

108-65-6:

Partition coefficient: n-octanol/water : log Pow: 0.43

108-88-3:

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

110-19-0:

Partition coefficient: n-octanol/water : log Pow: 1.78

123-86-4:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 15

Partition coefficient: n-octanol/water : log Pow: 1.82

octanol/water

1330-20-7:

Partition coefficient: n-octanol/water : log Pow: 2.77 - 3.15

100-41-4:

Partition coefficient: n-octanol/water : log Pow: 2.92

Mobility in soil

No data available

Other adverse effects

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.

Components:

100-41-4:

Results of PBT and vPvB assessment

: This substance is not considered to be persistent, bio-accumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association): UN1263, PAINT RELATED MATERIAL, 3, II, Flash Point:-18 °C(-0.40 °F)

IMDG (International Maritime Dangerous Goods): UN1263, PAINT RELATED MATERIAL, 3, II

DOT (Department of Transportation): UN1263, PAINT RELATED MATERIAL, 3, II

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Flammable liquid, Carcinogen, Harmful by skin absorption., Moderate skin irritant, Moderate eye irritant, Moderate respiratory irritant, Teratogen, Reproductive hazard, Mutagen

WHMIS Classification : : Flammable Liquid
D2A: Very Toxic Material Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

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

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---------------|-----------|--------------------|-----------------------------|
| Mixed xylenes | 1330-20-7 | 100 | 1901 |

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

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 | 10.54 % |
| 100-41-4 | Ethylbenzene | 1.5983 % |
| 71-43-2 | Benzene | 0.0281 % |
| 110-54-3 | Hexane | 0.0031 % |

| | | |
|---------|-------------|----------|
| 67-56-1 | Methanol | 0.0022 % |
| 91-20-3 | Naphthalene | 0.0003 % |
| 98-82-8 | Cumene | 0.000 % |

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 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

| | | |
|-----------|------------------|-----------|
| 67-64-1 | Acetone | 37.3599 % |
| 108-88-3 | Toluene | 10.54 % |
| 110-19-0 | Isobutyl acetate | 10.5389 % |
| 123-86-4 | n-Butyl acetate | 5.3421 % |
| 1330-20-7 | Mixed xylenes | 5.2608 % |
| 100-41-4 | Ethylbenzene | 1.5983 % |
| 110-82-7 | Cyclohexane | 0.3931 % |
| 71-43-2 | Benzene | 0.0281 % |
| 67-56-1 | Methanol | 0.0022 % |
| 98-82-8 | Cumene | 0.000 % |

Clean Water Act

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

| | | |
|-----------|------------------|-----------|
| 108-88-3 | Toluene | 10.54 % |
| 110-19-0 | Isobutyl acetate | 10.5389 % |
| 123-86-4 | n-Butyl acetate | 5.3421 % |
| 1330-20-7 | Mixed xylenes | 5.2608 % |
| 100-41-4 | Ethylbenzene | 1.5983 % |
| 110-82-7 | Cyclohexane | 0.3931 % |
| 71-43-2 | Benzene | 0.0281 % |
| 91-20-3 | Naphthalene | 0.0003 % |

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

| | | |
|-----------|-----------------|----------|
| 108-88-3 | Toluene | 10.54 % |
| 123-86-4 | n-Butyl acetate | 5.3421 % |
| 1330-20-7 | Mixed xylenes | 5.2608 % |
| 100-41-4 | Ethylbenzene | 1.5983 % |
| 110-82-7 | Cyclohexane | 0.3931 % |
| 71-43-2 | Benzene | 0.0281 % |
| 91-20-3 | Naphthalene | 0.0003 % |

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

| | | |
|----------|--------------|----------|
| 108-88-3 | Toluene | 10.54 % |
| 100-41-4 | Ethylbenzene | 1.5983 % |

US State Regulations

Massachusetts Right To Know

| | | |
|----------|------------------|-----------|
| 67-64-1 | Acetone | 30 - 50 % |
| 108-88-3 | Toluene | 10 - 20 % |
| 110-19-0 | Isobutyl acetate | 10 - 20 % |
| 123-86-4 | n-Butyl acetate | 5 - 10 % |

| | | |
|-----------|---------------|-----------|
| 1330-20-7 | Mixed xylenes | 5 - 10 % |
| 100-41-4 | Ethylbenzene | 1 - 5 % |
| 71-43-2 | Benzene | 0 - 0.1 % |

Pennsylvania Right To Know

| | | |
|------------|--|-----------|
| 67-64-1 | Acetone | 30 - 50 % |
| 64742-49-0 | Naphtha (pet), hydrotreated lt | 0 - 20 % |
| 64742-89-8 | Solvent naphtha (pet), lt aliph. | 0 - 20 % |
| 68410-97-9 | Distillates, pet, lt dist hydrotreat process, low-boil | 0 - 20 % |
| 108-65-6 | Glycol ether PM acetate | 10 - 20 % |
| 108-88-3 | Toluene | 10 - 20 % |
| 110-19-0 | Isobutyl acetate | 10 - 20 % |
| 123-86-4 | n-Butyl acetate | 5 - 10 % |
| 1330-20-7 | Mixed xylenes | 5 - 10 % |
| 100-41-4 | Ethylbenzene | 1 - 5 % |
| 110-82-7 | Cyclohexane | 0.1 - 1 % |
| 71-43-2 | Benzene | 0 - 0.1 % |

New Jersey Right To Know

| | | |
|------------|--|-----------|
| 67-64-1 | Acetone | 30 - 50 % |
| 64742-49-0 | Naphtha (pet), hydrotreated lt | 0 - 20 % |
| 64742-89-8 | Solvent naphtha (pet), lt aliph. | 0 - 20 % |
| 68410-97-9 | Distillates, pet, lt dist hydrotreat process, low-boil | 0 - 20 % |
| 108-65-6 | Glycol ether PM acetate | 10 - 20 % |
| 108-88-3 | Toluene | 10 - 20 % |
| 110-19-0 | Isobutyl acetate | 10 - 20 % |
| 123-86-4 | n-Butyl acetate | 5 - 10 % |
| 1330-20-7 | Mixed xylenes | 5 - 10 % |
| 100-41-4 | Ethylbenzene | 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 | |
| 67-56-1 | Methanol | |

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

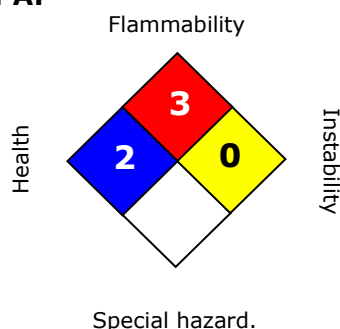
| | | |
|--|---|----------------------|
| Switzerland. New notified substances and declared | : | y (positive listing) |
|--|---|----------------------|

| | | |
|---|---|---|
| preparations | | (The formulation contains substances listed on the Swiss Inventory) |
| United States TSCA Inventory | : | y (positive listing) (On TSCA Inventory) |
| 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) |

SECTION 16. OTHER INFORMATION

VERSION 3.0
REVISION DATE 06/19/2019

NFPA:



HMIS III:

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

0 = not significant, 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.

Legacy MSDS: R0329927

Material number:
16069388, 547005, 146398

| 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 | OSHA | Occupational Safety & Health Admin- |

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