

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

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**SECTION 1. IDENTIFICATION**

Product name : R-134A PERFORMANCE ENHANCER, 115 g  
Product code : 892.76462  
Other means of identification : No data available

**Manufacturer or supplier's details**

Company name of supplier : Würth Canada Limited  
Address : 345 Hanlon Creek Blvd  
GUELPH, ON N1C 0A1  
Telephone : +1 (905) 564 6225  
Telefax : +1 (905) 564 3671  
Emergency telephone : Emergencies involving a spill, fire, explosion or exposure:  
CHEMTREC (24/7): 1-800-424-9300  
Transport related emergencies:  
CANUTEC (24/7): 1-613-996-6666 or \* 666 (cell)  
  
Urgences impliquant un déversement, incendie, explosion ou exposition:  
CHEMTREC (24/7): 1-800-424-9300  
Urgences liées au transport:  
CANUTEC (24/7): 1-613-996-6666 ou \* 666 (cellulaire)  
  
E-mail address : prodsafe@wurth.ca

**Recommended use of the chemical and restrictions on use**

Recommended use : Lubricants and lubricant additives

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**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the Hazardous Products Regulations**

Gases under pressure : Liquefied gas  
Skin sensitization : Sub-category 1B  
Reproductive toxicity : Category 2  
Simple Asphyxiant : Category 1

**GHS label elements**

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
 Date of first issue: 10/25/2013

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H280 Contains gas under pressure; may explode if heated.  
 H317 May cause an allergic skin reaction.  
 H361 Suspected of damaging fertility or the unborn child.  
 May displace oxygen and cause rapid suffocation.

Precautionary Statements : **Prevention:**  
 P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing spray.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves, protective clothing, eye protection and face protection.

**Response:**  
 P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P308 + P313 IF exposed or concerned: Get medical attention.  
 P333 + P313 If skin irritation or rash occurs: Get medical attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**  
 P405 Store locked up.  
 P410 + P403 Protect from sunlight. Store in a well-ventilated place.

**Disposal:**  
 P501 Dispose of contents and container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Distillates (petroleum), hydrotreated heavy paraffinic	Mineral oil, petroleum distillates, hydrotreated	64742-54-7	>= 30 - < 60 *

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
 Date of first issue: 10/25/2013

	heavy paraffinic		
Citrus Terpene	Citrus peels extract (Citrus spp.)	94266-47-4	$\geq 1 - < 5$ *
Diphenylamine	Benzenamine, N-phenyl-	122-39-4	$\geq 0.1 - < 1$ *
Phenol, isopropylated, phosphate (3:1)	Isopropylated Triaryl Phosphate	68937-41-7	$\geq 0.1 - < 1$ *

\* Actual concentration or concentration range is withheld as a trade secret

**SECTION 4. FIRST AID MEASURES**

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
 When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
 If not breathing, give artificial respiration.  
 If breathing is difficult, give oxygen.  
 Get medical attention immediately.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.  
 Remove contaminated clothing and shoes.  
 Get medical attention.  
 Wash clothing before reuse.  
 Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
 Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
 Get medical attention.  
 Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.  
 Suspected of damaging fertility or the unborn child.  
 Gas reduces oxygen available for breathing.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

**SECTION 5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : Water spray  
 Alcohol-resistant foam  
 Carbon dioxide (CO<sub>2</sub>)  
 Dry chemical

**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

---

- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
- Hazardous combustion products : Carbon oxides  
Fluorine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.  
Ventilate the area.  
Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g., by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material.  
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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**SECTION 7. HANDLING AND STORAGE**

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Avoid breathing spray.  
Do not swallow.  
Avoid contact with eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.  
Do not pierce or burn, even after use.  
Keep cool. Protect from sunlight.
- Materials to avoid : Do not store with the following product types:  
Self-reactive substances and mixtures  
Organic peroxides  
Oxidizing agents  
Flammable solids  
Pyrophoric liquids  
Pyrophoric solids  
Self-heating substances and mixtures  
Substances and mixtures which in contact with water emit flammable gases  
Explosives  
Gases
- Recommended storage temperature : < 49 °C

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Ingredients with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	TWA (Mist)	5 mg/m <sup>3</sup>	CA AB OEL
		STEL (Mist)	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist)	5 mg/m <sup>3</sup>	CA QC OEL
		STEV (Mist)	10 mg/m <sup>3</sup>	CA QC OEL
Diphenylamine	122-39-4	TWA (Mist)	1 mg/m <sup>3</sup>	CA BC OEL
		TWA	10 mg/m <sup>3</sup>	CA AB OEL
		TWA	10 mg/m <sup>3</sup>	CA BC OEL
		TWAEV	10 mg/m <sup>3</sup>	CA QC OEL
		TWA	10 mg/m <sup>3</sup>	ACGIH

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

**Engineering measures** : Ensure adequate ventilation, especially in confined areas.  
Minimize workplace exposure concentrations.

**Personal protective equipment**

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Self-contained breathing apparatus

## Hand protection

Material : Nitrile rubber  
Break through time : 240 min  
Glove thickness : 4.5 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:  
Safety glasses

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Contaminated work clothing should not be allowed out of the workplace.  
Wash contaminated clothing before re-use.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : Aerosol containing a liquefied gas

Propellant : Norflurane

Color : green, yellow, clear

Odor : characteristic

**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

---

Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	Not applicable
Relative density	:	No data available
Solubility(ies) Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	Not applicable

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	Not classified as a reactivity hazard.
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**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

---

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Can react with strong oxidizing agents.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

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**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 5.53 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402 Remarks: Based on data from similar materials



**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

**Citrus Terpene:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

**Diphenylamine:**

Acute oral toxicity : Acute toxicity estimate: 100 mg/kg  
Method: Expert judgment  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute inhalation toxicity : Acute toxicity estimate: 0.5001 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgment  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : Acute toxicity estimate: 300 mg/kg  
Method: Expert judgment  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

**Phenol, isopropylated, phosphate (3:1):**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 200 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 10,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Species : Rabbit  
Result : No skin irritation  
Remarks : Based on data from similar materials

**Citrus Terpene:**

Species : Rabbit  
Result : Skin irritation  
Remarks : Based on data from similar materials

**Diphenylamine:**

Species : Rabbit

## R-134A PERFORMANCE ENHANCER, 115 g

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

Result : No skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Species : Rabbit  
Result : No eye irritation  
Method : OECD Test Guideline 405  
Remarks : Based on data from similar materials

**Citrus Terpene:**

Species : Rabbit  
Result : No eye irritation  
Remarks : Based on data from similar materials

**Diphenylamine:**

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days

**Phenol, isopropylated, phosphate (3:1):**

Species : Rabbit  
Result : No eye irritation

**Respiratory or skin sensitization****Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Test Type : Buehler Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative  
Remarks : Based on data from similar materials

**Citrus Terpene:**

Test Type : Local lymph node assay (LLNA)  
Routes of exposure : Skin contact  
Species : Mouse  
Result : positive  
Remarks : Based on data from similar materials

Assessment : Probability or evidence of low to moderate skin sensitization

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

rate in humans

**Diphenylamine:**

Routes of exposure : Skin contact  
Species : Humans  
Result : negative

**Phenol, isopropylated, phosphate (3:1):**

Test Type : Local lymph node assay (LLNA)  
Routes of exposure : Skin contact  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : equivocal

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

**Citrus Terpene:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Transgenic rodent somatic cell gene mutation assay  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**Diphenylamine:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Method: OECD Test Guideline 479  
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Ingestion  
Result: negative

**Phenol, isopropylated, phosphate (3:1):**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Hamster  
Application Route: Ingestion  
Method: OECD Test Guideline 475  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Species : Mouse  
Application Route : Skin contact  
Exposure time : 78 weeks  
Method : OECD Test Guideline 451  
Result : negative  
Remarks : Based on data from similar materials

**Diphenylamine:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 2 Years  
Remarks : negative

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Skin contact  
Method: OECD Test Guideline 414  
Result: negative  
Remarks: Based on data from similar materials

**Diphenylamine:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

**Phenol, isopropylated, phosphate (3:1):**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 421  
Result: positive

Effects on fetal development : Test Type: Fertility/early embryonic development  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

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

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**R-134A PERFORMANCE ENHANCER, 115 g**

Version      Revision Date:      SDS Number:      Date of last issue: 10/26/2021  
5.5          05/03/2022          10672703-00005      Date of first issue: 10/25/2013

---

**Components:****Diphenylamine:**

Routes of exposure      :    Ingestion  
Target Organs          :    Kidney, Blood, spleen, Liver  
Assessment              :    Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

**Phenol, isopropylated, phosphate (3:1):**

Routes of exposure      :    Ingestion  
Target Organs          :    Adrenal gland  
Assessment              :    Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

**Repeated dose toxicity****Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Species                  :    Rabbit  
NOAEL                   :    1,000 mg/kg  
Application Route      :    Skin contact  
Exposure time          :    4 Weeks  
Method                  :    OECD Test Guideline 410  
Remarks                :    Based on data from similar materials

Species                  :    Rat  
NOAEL                   :    > 980 mg/m<sup>3</sup>  
Application Route      :    inhalation (dust/mist/fume)  
Exposure time          :    4 Weeks

**Citrus Terpene:**

Species                  :    Rat  
NOAEL                   :    600 mg/kg  
Application Route      :    Ingestion  
Exposure time          :    13 Weeks  
Remarks                :    Based on data from similar materials

**Diphenylamine:**

Species                  :    Rat  
NOAEL                   :    7.5 mg/kg  
Application Route      :    Ingestion  
Exposure time          :    2 y

Species                  :    Rat  
NOAEL                   :    500 mg/kg  
Application Route      :    Skin contact  
Exposure time          :    90 Days

**Phenol, isopropylated, phosphate (3:1):**

Species                  :    Rat  
NOAEL                   :    < 25 mg/kg

**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

---

Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408

**Aspiration toxicity**

Not classified based on available information.

**Components:****Citrus Terpene:**

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

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC: > 1.93 mg/l  
Exposure time: 10 min  
Method: DIN 38 412 Part 8  
Remarks: Based on data from similar materials

**Citrus Terpene:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.72 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

---

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.36 mg/l  
Exposure time: 48 h  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 150 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials

**Diphenylamine:**

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 2.2 mg/l  
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.14 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 1.5 mg/l  
Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 0.06 mg/l  
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.16 mg/l  
Exposure time: 21 d

Toxicity to microorganisms : EC50 (activated sludge): 18.7 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

**Phenol, isopropylated, phosphate (3:1):**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 1.5 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 2.5 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 0.31 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.0031 mg/l  
Exposure time: 33 d  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0415 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211



**R-134A PERFORMANCE ENHANCER, 115 g**

Version 5.5      Revision Date: 05/03/2022      SDS Number: 10672703-00005      Date of last issue: 10/26/2021  
Date of first issue: 10/25/2013

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Toxicity to microorganisms      :    EC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

**Persistence and degradability****Components:****Distillates (petroleum), hydrotreated heavy paraffinic:**

Biodegradability                    :    Result: Not readily biodegradable.  
Biodegradation: 31 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

**Citrus Terpene:**

Biodegradability                    :    Result: Readily biodegradable.  
Biodegradation: 80 %  
Exposure time: 28 d  
Remarks: Based on data from similar materials

**Diphenylamine:**

Biodegradability                    :    Result: Not readily biodegradable.  
Biodegradation: 38 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

**Phenol, isopropylated, phosphate (3:1):**

Biodegradability                    :    Result: Not readily biodegradable.  
Biodegradation: 17.9 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

**Bioaccumulative potential****Components:****Citrus Terpene:**

Partition coefficient: n-            :    log Pow: 4.38  
octanol/water                        :    Remarks: Based on data from similar materials

**Diphenylamine:**

Bioaccumulation                    :    Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): < 500

Partition coefficient: n-            :    log Pow: 3.82  
octanol/water                        :    Method: OECD Test Guideline 107

**Phenol, isopropylated, phosphate (3:1):**

Bioaccumulation                    :    Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 776

**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

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Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: &gt; 4

**Mobility in soil**

No data available

**Other adverse effects**No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.  
Please ensure aerosol cans are sprayed completely empty (including propellant)

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****UNRTDG**UN number : UN 1950  
Proper shipping name : AEROSOLS  
Class : 2.2  
Packing group : Not assigned by regulation  
Labels : 2.2**IATA-DGR**UN/ID No. : UN 1950  
Proper shipping name : Aerosols, non-flammable  
Class : 2.2  
Packing group : Not assigned by regulation  
Labels : Non-flammable, non-toxic Gas  
Packing instruction (cargo aircraft) : 203  
Packing instruction (passenger aircraft) : 203**IMDG-Code**UN number : UN 1950  
Proper shipping name : AEROSOLS  
(Phenol, isopropylated, phosphate (3:1), Citrus Terpene)  
Class : 2.2  
Packing group : Not assigned by regulation  
Labels : 2.2  
EmS Code : F-D, S-U  
Marine pollutant : yes

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**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

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**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**Domestic regulation****TDG**

UN number	:	UN 1950
Proper shipping name	:	AEROSOLS
Class	:	2.2
Packing group	:	Not assigned by regulation
Labels	:	2.2
ERG Code	:	126
Marine pollutant	:	yes(Phenol, isopropylated, phosphate (3:1), Citrus Terpene)

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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**SECTION 15. REGULATORY INFORMATION**

<b>Volatile organic compounds (VOC) content</b>	CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999 - Guidelines for VOC in Consumer Products VOC content: 3.5 % / 30.8 g/l
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**International Regulations**

Montreal Protocol : Norflurane

**The ingredients of this product are reported in the following inventories:**

DSL : This product contains one or several components that are not on the Canadian DSL nor NDSL.

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA QC OEL / TWA EV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

**R-134A PERFORMANCE ENHANCER, 115 g**

Version	Revision Date:	SDS Number:	Date of last issue: 10/26/2021
5.5	05/03/2022	10672703-00005	Date of first issue: 10/25/2013

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AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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Date format : mm/dd/yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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