Material Safety Data Sheet

Engine Flush 350ml

Air Canada # 99904A1518

Version 1.0  Revision Date 12/30/2009  Print Date 02/08/2010

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Commercial Product Name: Engine Flush 350ml
Product code: 893,533 - Air Canada # 99904A1518
MSDS-identcode: 10004016
Product Use Description: Cleaning agent
Company: Würth Canada Limited
6330 Tomken Road Mississauga
Ontario L5T 1N2
Canada
Telephone: +1 (905) 564 6225
Teletex: +1 (905) 564 3671
Responsible/issuing person: prodsafe.wurth@technidata.com
Emergency telephone: CANUTEC
+1 (613) 996 6666
Telephone number of the company in case of emergencies (7.00am – 7.00pm):
+1 (905) 564 6225

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Regulatory status: This product, material or substance is a WHMIS controlled product per Sections 33 - 66, Part IV of the CPR.

Signal Word: DANGER
Form: liquid
Odour: hydrocarbon-like
Odour Control: no data available
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Parameters
Hazard Summary: Highly Toxic
Combustible Liquid

Potential Health Effects

Eyes
Causes eye irritation.

Skin
Harmful if absorbed through skin.
May cause skin irritation.

Ingestion
Harmful or fatal if swallowed.

Inhalation
May be fatal if inhaled.
May cause respiratory tract irritation.

Target Organs:
Eyes
Skin
Respiratory system
Central nervous system
Blood

Carcinogenicity:

ACGIH
2-butoxyethanol; ethylene glycol monobutyl ether butyl cellosolve (CAS-No.: 111-76-2)

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.

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
CA Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range</td>
<td>8052-41-3</td>
<td>&gt;= 95 - &lt;= 100</td>
</tr>
<tr>
<td>2-butoxyethanol; ethylene glycol monobutyl ether butyl cellosolve</td>
<td>111-76-2</td>
<td>&gt;= 3 - &lt; 5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider needs to protect himself. Move out of dangerous area. Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately.

Inhalation : If breathed in, move person into fresh air. If symptoms persist, call a physician. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Skin contact : In case of contact, immediately flush skin with soap and plenty of water. Do NOT use solvents or thinners. If skin irritation persists, call a physician. Wash off with polyethylene glycol and afterwards with plenty of water.

Eye contact : Protect unharmed eye. If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIRE-FIGHTING MEASURES

Form : liquid
Flash point : 43 °C (109 °F)
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Lower explosion limit
Note: no data available

Upper explosion limit
Note: no data available

Suitable extinguishing media
Alcohol-resistant foam
Water mist
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media
High volume water jet

Specific hazards during fire fighting
Do not use a solid water stream as it may scatter and spread fire.
Hazardous decomposition products formed under fire conditions (see chapter 10).
Exposure to decomposition products may be a hazard to health.

Special protective equipment for fire-fighters
In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Further information
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
In the event of fire and/or explosion do not breathe fumes.
Use water spray to cool unopened containers.
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.
Pay attention to flashback.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Refer to protective measures listed in sections 7 and 8.
Use personal protective equipment.
Remove all sources of ignition.
Avoid contact with skin and eyes.
Ensure adequate ventilation, especially in confined areas.
Immediately evacuate personnel to safe areas.
Avoid inhalation of vapour or mist.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions:
Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
Avoid release to the environment. Refer to special instructions/Safety data sheets.

Methods for cleaning up:
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations.
Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE

Handling
For personal protection see section 8.
Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
Take precautionary measures against static discharges.
Use appropriate container to avoid environmental contamination.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.
Vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Keep away from heat and sources of ignition.
Do not smoke.
No sparking tools should be used.
Electrical equipment should be protected to the appropriate standard.
Dust explosion class: not applicable

Storage
Requirements for storage areas and containers: Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Keep away from direct sunlight.

Advice on common storage: Incompatible with oxidizing agents. Incompatible with acids.

Advice on common storage: Keep away from food, drink and animal feedingstuffs.

Other data: No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>List</th>
<th>Type:</th>
<th>Value</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range</td>
<td>8052-41-3</td>
<td>CA AB OEL</td>
<td>TWA</td>
<td>100 ppm</td>
<td>572 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA BC OEL</td>
<td>TWA</td>
<td>290 mg/m³</td>
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<tr>
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<td>CA BC OEL</td>
<td>STEL</td>
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<td>CA ON OEL</td>
<td>TWA EV</td>
<td>525 mg/m³</td>
<td>2005-12-17</td>
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<tr>
<td></td>
<td></td>
<td>CA QC OEL</td>
<td>TWA EV</td>
<td>100 ppm</td>
<td>525 mg/m³</td>
</tr>
<tr>
<td>2-butoxyethanol: ethylene glycol monobutyl ether butyl cellulose</td>
<td>111-76-2</td>
<td>CA AB OEL</td>
<td>TWA</td>
<td>20 ppm</td>
<td>97 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>CA AB OEL</td>
<td>TWA</td>
<td>20 ppm</td>
<td>97 mg/m³</td>
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<td>CA BC OEL</td>
<td>TWA</td>
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<td>97 mg/m³</td>
</tr>
</tbody>
</table>

Engineering measures: Provide sufficient air exchange and/or exhaust in workrooms.
Eye protection  : In case of splash hazard, please wear protective goggles.

Hand protection
Glove material  : Viton (R)
Nitrile rubber

Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Skin and body protection  : Flame retardant antistatic protective clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection  : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures  : Handle in accordance with good industrial hygiene and safety practice.
General industrial hygiene practice.
Avoid breathing vapors, mist or gas.
Avoid contact with skin, eyes and clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.
Follow the skin protection plan.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form  : liquid
Odour  : hydrocarbon-like
Flash point  : 43 °C (109 °F)
Lower explosion limit  : no data available
Upper explosion limit  : no data available
pH  : not applicable
Vapour pressure : no data available
Relative vapour density : >1
      (Air = 1.0)
Density : 0.83 g/cm³
Water solubility : insoluble
Viscosity, kinematic : no data available
Volatile organic compounds (VOC) content : 100 %

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Heat, flames and sparks.
Materials to avoid : Oxidizing agents
      Peroxides
      Nitric acid
      Bases
      oxidising mineral acids
Hazardous decomposition products : Carbon monoxide
      Carbon dioxide (CO₂)
      Organic Substances
Hazardous decomposition products : Build-up of dangerous/toxic fumes possible in cases of
      fire/high temperature
Hazardous reactions : Note: No decomposition if stored and applied as
      directed.
Hazardous reactions : Vapours may form explosive mixtures with air.

SECTION 11. TOXICOLOGICAL INFORMATION

Carcinogenicity : No data is available on the product itself.
Reproductive toxicity : No data is available on the product itself.
Teratogenicity : No data is available on the product itself.
Further information : 2-Butoxy-ethanol and its acetate (2-Butoxy-ethyl-acetate) are skin
      resorptive and cause harmful effects to the blood.
Further information: Even the smallest quantities that enter into the lung due to swallowing or subsequent vomiting can lead to a pulmonary oedema or pneumonia. Aspiration hazard if swallowed - can enter lungs and cause damage.

Component:
Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range 8052-41-3

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

Acute inhalation toxicity: LC50 rat
Dose: > 5,500 mg/m3 Exposure time: 4 h

Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation

Acute and prolonged toxicity for aquatic invertebrates: EC50

SECTION 12. ECOLOGICAL INFORMATION

Adsorbed organic bound halogens (AOX): not included
Volatile organic compounds (VOC) content: 100 %
Additional ecological information: The product should not be allowed to enter drains, water courses or the soil.

Component:
2-butoxyethanol; ethylene glycol monobutyl ether butyl cellosolve 111-76-2

Acute oral toxicity: LD50 rat
Dose: 470 mg/kg

Acute dermal toxicity: LD50 rabbit
Dose: 220 mg/kg

Acute inhalation toxicity: LC50 rat
Dose: 450 ppm Exposure time: 4 h

Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes. Result: Eye irritation
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**Species:** Daphnia magna (Water flea)  
**Dose:** 1.7 - 1.9 g/l  
**Exposure time:** 24 h

**Toxicity to bacteria:**  
EC0

**Species:** Pseudomonas putida  
**Dose:** 700 mg/l  
**Exposure time:** 16 h

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Adequate disposal:** In accordance with local and national regulations.  
Do not dispose of waste into sewer.  
This material and its container must be disposed of as hazardous waste.  
Do not dispose of together with household waste.

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**SECTION 14. TRANSPORT INFORMATION**

**DOT 49 CFR**

- **Proper shipping name:** Petroleum distillates, n.o.s.  
- **ID No:** UN 1268  
- **Class:** 3  
- **Packing group:** III  
- **Labels:** 3  
- **Emergency Response Guidebook Number:** 128  

**Hazard inducer:** (Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range)

**TDGR**

- **Proper shipping name:** PETROLEUM DISTILLATES, N.O.S.  
- **ID No:** UN 1268  
- **Class:** 3  
- **Packing group:** III  
- **Labels:** 3  
- **Emergency Response Guidebook Number:** 128
**Hazard inducer**

(Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range)

**ICAO / IATA-DGR**

<table>
<thead>
<tr>
<th>ID No</th>
<th>UN 1268</th>
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<tbody>
<tr>
<td>Description of the goods</td>
<td>Petroleum products, n.o.s. (Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range)</td>
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<td>Class</td>
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<td>310</td>
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<td>Packing instruction (passenger aircraft)</td>
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<td>Packing instruction (passenger aircraft)</td>
<td>Y309</td>
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**IMDG-Code**

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<th>UN 1268</th>
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<td>Description of the goods</td>
<td>PETROLEUM PRODUCTS, N.O.S. (Stoddart solvent A colourless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range)</td>
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<td>Packaging group</td>
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<td>EmS Number 1</td>
<td>F-E</td>
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<tr>
<td>EmS Number 2</td>
<td>S-E</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>yes</td>
</tr>
</tbody>
</table>

**SECTION 15. REGULATORY INFORMATION**

**WHMIS Classification**

- B3 Combustible Liquid
- D1A Very Toxic Material Causing Immediate and Serious Toxic Effects
- D1B Toxic Material Causing Immediate and Serious
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Toxic Effects
D2B Toxic Material Causing Other Toxic Effects
Combustible Liquid
Highly toxic by inhalation
Toxic by ingestion
Toxic by skin absorption
Moderate skin irritant
Mild respiratory irritant
Severe eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

Further information
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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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