
SAFETY DATA SHEET**ENGINE FLUSH AND CLEANER 400ML**

Version 2.0

Revision Date 03.04.2014

Print Date 01.07.2016

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Commercial Product Name : ENGINE FLUSH AND CLEANER 400ML

Product code : 5861 312 400
MSDS-Identcode : 10042941
Product Use Description : Cleaning agent
Company : Wurth Australia Pty Ltd
2/1 Healey Road
Dandenong South, Victoria, 3175
Australia

Telephone : +61 3 8788 1111
Responsible/issuing person : prodsafe@wuerth.com
Emergency telephone : 1300 657 765. Advisory office in case of poisoning - National
number : Poisons Centre: 131 126

2. HAZARDS IDENTIFICATION

DANGEROUS GOODS. HAZARDOUS SUBSTANCE.
Dangerous goods classification according to the Australia Dangerous Goods Code.
Classified as hazardous according to the criteria of NOHSC.

Standard for the Uniform : Schedule 6
Scheduling of Medicines and
Poisons

R-phrase(s)

Flammable.
Harmful by inhalation and in contact with skin.
Irritating to skin.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Harmful: may cause lung damage if swallowed.

S-phrase(s)

Wear suitable protective clothing and gloves.
In case of fire, use sand, dry chemical or alcohol-resistant foam.
Use appropriate container to avoid environmental contamination.
This material and its container must be disposed of as hazardous waste.
If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

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3. COMPOSITION/INFORMATION ON INGREDIENTS**Hazardous components**

Chemical Name	CAS-No.	Concentration
kerosine - unspecified	64742-81-0	>= 50 - < 55%
xylene	1330-20-7	>= 15 - < 20%
morpholine	110-91-8	>= 0.75 - < 1%
Zinc dialkyl dithiophosphate	68649-42-3	>= 0.75 - < 1%
kerosine - unspecified	64742-94-5	>= 0.75 - < 1%
naphthalene	91-20-3	>= 0.1 - < 0.2%
2-Ethylhexan-1-ol	104-76-7	>= 0.1 - < 0.2%

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.
- If inhaled : If breathed in, move person into fresh air.
Call a physician immediately.
Keep patient warm and at rest.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
- In case of skin contact : Call a physician immediately.
In case of contact, immediately flush skin with soap and plenty of water.
Do NOT use solvents or thinners.
Wash off with polyethylene glycol and afterwards with plenty of water.
- In case of 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.

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If swallowed : 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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry powder
Foam
Carbon dioxide (CO₂)
Water mist

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 may be formed under fire conditions (see section 10).
Exposure to decomposition products may be a hazard to health.

Special protective equipment for firefighters : 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.

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.
Avoid inhalation of vapour or mist.
Beware of vapours accumulating to form explosive concentra-

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- tions. Vapours can accumulate in low areas.
Immediately evacuate personnel to safe 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.

7. HANDLING AND STORAGE**Handling**

- Advice on safe 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.

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Keep away from heat.
Keep away from direct sunlight.

Further information on storage conditions : AS 1940 The storage and handling of flammable and combustible liquids.
AS/NZS 4681 The storage and handling of Class 9 (miscellaneous) Dangerous Goods and articles.
AS/NZS 3833 The storage and handling of mixed classes of Dangerous Goods in packages and intermediate bulk containers.

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

Materials to avoid : Avoid contact with other chemicals.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
xylene	1330-20-7	TWA	80 ppm 350 mg/m ³	2012-05-04	AU OEL
		STEL	150 ppm 655 mg/m ³	2012-05-04	AU OEL
morpholine	110-91-8	TWA	20 ppm 71 mg/m ³	2012-05-04	AU OEL
Further information	:	Sk: Skin absorption			
naphthalene	91-20-3	STEL	15 ppm 79 mg/m ³	2013-04-18	AU OEL
Further information	:	Carc. 2: Category 2 (Carc. 2) Suspected human carcinogen			
		TWA	10 ppm 52 mg/m ³	2013-04-18	AU OEL

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Further information	:	Carc. 2: Category 2 (Carc. 2) Suspected human carcinogen
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Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003], as amended through August 2005

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Update
xylene	1330-20-7	Methylhippuric acids: 1.5 g/g creatinine	End of shift	2013-03-01

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

- Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Respirator with filter type A
- Hand protection : Nitrile rubber
Break through time: 480 min
- : 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.
- Eye protection : Tightly fitting safety goggles
- 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.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
General industrial hygiene practice.

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Avoid breathing vapours, 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.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	: liquid
Colour	: brown
Odour	: aromatic
Odour Threshold	: No data available

Safety data

Flash point	: 127 °F (53 °C)
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Flammability	: No data available
Auto-ignition temperature	: No data available
pH	: Not applicable
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Vapour pressure	: No data available
Density	: 0.835 g/cm ³ at 20 °C
Partition coefficient: n- octanol/water	: No data available
Solubility in other solvents	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: < 7 mm ² /s at 40 °C
Relative vapour density	: No data available

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Evaporation rate : No data available
Thermal decomposition : No data available

10. STABILITY AND REACTIVITY

Conditions to avoid : Heat, flames and sparks.
Materials to avoid : Avoid contact with other chemicals.
Hazardous decomposition products : Carbon oxides
Nitrogen oxides (NO_x)
Hazardous reactions :
Vapours may form explosive mixtures with air.
Stability : No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Acute oral toxicity : No data available
Acute oral toxicity (Components)
morpholine : LD50: 1,900 mg/kg
Species: Rat
Method: OECD Test Guideline 401
kerosine - unspecified : LD50: > 2,000 mg/kg
Species: Rat
Method: OECD Test Guideline 401
naphthalene : LD50: > 300 - 2,000 mg/kg
Acute inhalation toxicity : Harmful by inhalation and in contact with skin.
Acute dermal toxicity : Harmful in contact with skin.
Components of the product may be absorbed into the body through the skin.

Skin corrosion/irritation

Skin irritation : No data available

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Skin irritation (Components)

kerosine - unspecified : Result: Severe skin irritation

xylene : Result: Severe skin irritation

morpholine : Species: Rabbit
Result: Causes burns.
Method: OECD Test Guideline 404

Zinc dialkyl dithiophosphate : Result: Severe skin irritation

kerosine - unspecified : Result: Repeated exposure may cause skin dryness or crack-
ing.

2-Ethylhexan-1-ol : Result: Severe skin irritation

Serious eye damage/eye irritation

Eye irritation : No data available

Eye irritation (Components)

Zinc dialkyl dithiophosphate : Result: Risk of serious damage to eyes.

kerosine - unspecified : Species: Rabbit
Result: No eye irritation

2-Ethylhexan-1-ol : Result: irritating

Respiratory or skin sensitisation

Sensitisation : No data available

Sensitisation (Components)morpholine : Species: Guinea pig
Classification: Does not cause skin sensitisation.
Result: Does not cause skin sensitisation.
Method: Buehler Test**Chronic toxicity**

Mutagenicity : No data available

Mutagenicity (Components)

morpholine : In vivo tests did not show mutagenic effects

Carcinogenicity : No data available

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Carcinogenicity (Components)

morpholine : Animal testing did not show any carcinogenic effects.

naphthalene : Suspected human carcinogens

Teratogenicity : No data available

Teratogenicity (Components)

morpholine : Animal testing did not show any effects on foetal development.

Reproductive toxicity : No data available

Reproductive toxicity (Components)

morpholine : No toxicity to reproduction

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - single exposure(Components)

kerosine - unspecified : May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

No data available

Aspiration toxicity : No data available

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.

12. ECOLOGICAL INFORMATION**Toxicity to fish (Components)**morpholine : LC50: 380 mg/l
Exposure time: 96 h

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Species: *Oncorhynchus mykiss* (rainbow trout)kerosine - unspecified : LC50: 6.1 mg/l
Exposure time: 96 hSpecies: *Oncorhynchus mykiss* (rainbow trout)
Method: OECD Test Guideline 203Toxicity to daphnia and other aquatic invertebrates (Components)
morpholine : EC50: 45 mg/lExposure time: 48 h
Species: *Daphnia magna* (Water flea)
Method: OECD Test Guideline 202kerosine - unspecified : EC50: 2.9 mg/l
Exposure time: 48 h
Species: *Daphnia magna* (Water flea)
Method: OECD Test Guideline 202Toxicity to algae (Components)
morpholine : EC50: 28 mg/lExposure time: 96 h
Species: *Selenastrum capricornutum* (green algae)kerosine - unspecified : EC50: 1.4 mg/l
Exposure time: 96 h
Species: *Pseudokirchneriella subcapitata* (microalgae)
Method: OECD Test Guideline 201Toxicity to daphnia and other aquatic invertebrates / Chronic toxicity (Components)
morpholine : NOEC: 5 mg/lExposure time: 21 d
Species: *Daphnia magna* (Water flea)
Method: OECD Test Guideline 211**Elimination information (persistence and degradability)**Bioaccumulation : No data available
Biodegradability : No data available
Mobility in soil : No data available**Further information on ecology**

Adsorbed organic bound halogens (AOX) : Product does not contain any organic halogens.

Acute aquatic toxicity (Components)

kerosine - unspecified : Toxic to aquatic life.

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Zinc dialkyl dithiophosphate : Toxic to aquatic life.

naphthalene : Very toxic to aquatic life.

Chronic aquatic toxicity (Components)

kerosine - unspecified : Toxic to aquatic life with long lasting effects.

Zinc dialkyl dithiophosphate : Toxic to aquatic life with long lasting effects.

kerosine - unspecified : Toxic to aquatic life with long lasting effects.

naphthalene : Very toxic to aquatic life with long lasting effects.

Results of PBT assessment : No data available

Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.

13. DISPOSAL CONSIDERATIONS

Product : 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.

Disposal of contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not burn, or use a cutting torch on, the empty drum. Dispose of as unused product.

14. TRANSPORT INFORMATION**ADG**

UN number : 3295

Description of the goods : HYDROCARBONS, LIQUID, N.O.S.

Class : 3

Packing group : III

Labels : 3

Hazchem Code : 3Y

Environmentally hazardous : no

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**IATA**

UN number : 3295
Description of the goods : Hydrocarbons, liquid, n.o.s.
Class : 3
Packing group : III
Labels : 3
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355
Packing instruction (passenger aircraft) : Y344
Environmentally hazardous : no

IMDG

UN number : 3295
Description of the goods : HYDROCARBONS, LIQUID, N.O.S.
(kerosine - unspecified)
Class : 3
Packing group : III
Labels : 3
EmSNumber 1 : F-E
EmS Number 2 : S-D
Marine pollutant : yes

15. REGULATORY INFORMATIONLabelling according to EC Directives**1999/45/EC**

R-phras(e)s	: R10 R20/21 R38 R51/53	Flammable. Harmful by inhalation and in contact with skin. Irritating to skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic
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	R65	environment. Harmful: may cause lung damage if swallowed.
S-phrases(s)	: S36/37	Wear suitable protective clothing and gloves.
	S43	In case of fire, use sand, dry chemical or alcohol-resistant foam.
	S57	Use appropriate container to avoid environmental contamination.
	S60	This material and its container must be disposed of as hazardous waste.
	S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

National regulatory information

For detailed advice on Personal Protective equipment, refer to the following Australian Standards :- HB 9 (Handbook 9) Manual of industrial personal protection.

AS/NZS 1337 Eye protectors for industrial applications.

AS/NZS 1715 Selection, use and maintenance of respiratory protective devices.

AS/NZS 1716 Respiratory protective devices.

AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

AS/NZS 2919: Industrial clothing.

Hazard category

Harmful, Dangerous for the environment

National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011]

List of Designated Hazardous Substances [NOHSC].

Approved Criteria for Classifying Hazardous Substances [NOHSC:1008].

Amendment to National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC](2005)

Australian Dangerous Goods Code.

Standard Uniform Scheduling of Drugs and Poisons.

Notification status

AICS : On the inventory, or in compliance with the inventory

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16. OTHER INFORMATIONFull text of R-phrases referred to under sections 2 and 3

R10	Flammable.
R20/21	Harmful by inhalation and in contact with skin.
R38	Irritating to skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

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.

End of Safety Data Sheet