



To Our Customers:

The attached Safety Data Sheet (SDS) was prepared by the vendor of the product you purchased through one of our divisions. We used the manufacturer's electronic document directly or scanned a paper copy and generated a file for our automated SDS delivery system.

All statements, technical information, and recommendations contained therein are solely that of the manufacturer of the product. We at Zep Inc. did not verify the accuracy and completeness of the statements and do not warrant or guarantee the information. We provide vendor SDSs to assist our customers in their compliance efforts. The attached document is in compliance with one of the respective country regulatory requirements noted below:

The OSHA Hazard Communication Standard (in the United States)
The Hazardous Products Regulations (in Canada)

We made every effort to deliver all of the information prepared by the manufacturer. We cannot anticipate all conditions under which this information will be used. If you have any questions about the statements on the SDS, please contact the company shown on the document.

Zep Inc. assumes no liability or responsibility for loss or damage resulting from the improper use or handling of this product, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the manufacturer's product label and Safety Data Sheet.

Sincerely,

Product Stewardship Team
Zep Inc.

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name	SUBARU ENGINE FLUSH ADDITIVE
Recommended Use	The additive agent for internal washing of 4 cycle engine only
Manufacturer	
Company Name	Japan Chemical Industries Co., Ltd.
Address	813, Kikkawa, Shimizu-ku, Shizuoka-shi, Shizuoka-ken 424-8558 Japan
Telephone Number	+81(54)345-3476
Facsimile Number	+81(54)347-6865
Department in Charge	Engineering dept.
Emergency Telephone Number	+81(54)345-5527

2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

Explosives	Not applicable
Flammable gases	Not applicable
Flammable aerosols	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not classified
Flammable solids	Not applicable
Self-reactive substances and mixtures	Classification not possible
Pyrophoric liquids	Not classified
Pyrophoric solids	Not applicable
Self-heating substances and mixtures	Classification not possible
Substance and mixtures which, in contact with water, emits flammable liquids	Classification not possible
Oxidizing liquids	Classification not possible
Oxidizing solids	Not applicable
Organic peroxides	Not applicable
Corrosive to metals	Classification not possible

HEALTH HAZARDS

Acute toxicity (Oral)	Category 5
Acute toxicity (Dermal)	Category 5
Acute toxicity (Inhalation: gas)	Not applicable
Acute toxicity (Inhalation: Vapor)	Classification not possible
Acute toxicity (Inhalation: Dust)	Not applicable
Acute toxicity (Inhalation: Mist)	Category 4
Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2B
Respiratory	Classification not possible
Skin sensitization	Not classified
Germ cell mutagenicity	Category 2
Carcinogenicity	Not classified
Reproductive toxicity	Classification not possible
Specific target organ toxicity Single exposure	Category 2(Lungs)

Specific target organ toxicity Repeated exposure
Aspiration hazard

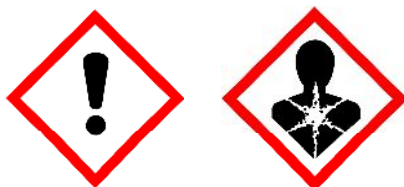
Category 1(Lungs, Skin)
Category 1

ENVIRONMENTAL HAZARDS

Hazardous to the aquatic environment-Acute hazard
Hazardous to the aquatic environment-Chronic hazard
Hazardous to the ozone layer

Classification not possible
Classification not possible
Classification not possible

Pictogram



Signal word

Danger

Hazard statement

May be harmful if swallowed.
May be harmful in contact with skin.
Harmful if inhaled.
Causes mild skin irritation.
Causes eye irritation.
Suspected of causing genetic defects.
May cause damage to organs.(Lungs)
Causes damage to organs (Lungs, Skin) through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary statement

[Prevention]

Use only outdoors or in well-ventilated area.
Avoid breathing mist/vapours.
Wash hands thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Do not eat, drink or smoke when using this product.
Do not breathe mist/vapours.

[Response]

Call a POISON CENTER/doctor/physician if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
If skin irritation occurs, get medical advice/attention.
IF IN EYES: Rinse cautiously with water more than 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists, get medical advice/attention.
IF exposed or concerned: Get medical attention/advice.
Get medical attention/advice if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.

[Storage]

Store locked up.
Store container tightly closed in cool/well-ventilated place.
Keep out of reach of children.

[Disposal]

In the case of the disposal, please confirm local disposal regulation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Single/ Blended : Blended

Contain Ingredient :

Chemical Name	Content (%)	CAS No.	UN No.
Distillates (petroleum)	60~70	Not publicized	Not applicable
Lubricant additive	30~40	Not publicized	Not applicable

4. FIRST AID MEASURES

In case of contact with eye

: Confirm whether the contact lens is used or not. Take it off if used, and immediately rinse the eyes with a large amount of clean water promptly more than 15 minutes, and completely wash it to the back of eyelids.
Do not use eye ointment. If any abnormality is felt such as irritation, immediately consult a physician.

In case of contact with skin

: If this substance has contacted directly with skin, promptly wipe off the solution with paper or cloth. If this solution has adhered on the cloth, take off the cloth, and wash it with large amount of water and soap. Carefully wash the joints and the portion between fingers. If any abnormality is observed on the skin or there is an ache on the skin, immediately consult a physician.

In case of inhalation

: Stop the work immediately, move to the place of fresh air, keep the body warm and rest calmly. If breathing is difficult, loosen the necktie, belt, waist band other tightening string of cloth, and attempt the mouth-to-mouth resuscitation. If symptom is not restored, immediately consult a physician.

In case of swallowing

: Do not vomit forcibly, but immediately consult a physician. If the inside of mouth is spoiled, adequately rinse the mouth with water.

Information on the main symptom

- There is a possibility of diarrhea, and vomiting when drinking.
- There is a possibility of inflammation when entering eyes.
- There is a possibility of inflammation when it touches the skin.
- If the mist are inhaled, it is likely to become unpleasant.

5. FIRE-FIGHTING MEASURES

Flash point: 136°C (276.8°F) (Cleveland Open Cup)

Suitable extinguishing media :

- Fogged reinforced liquid, foam, powder or carbon dioxide is effective.
- Use the powder and carbon dioxide for an initial fire.
- It is effective to intercept air by using the fire foam for a large-scale fire.

Unsuitable extinguishing media :

- Pouring water might expand a fire and be dangerous.
- Do not use water to extinguish fire.

Specific extinction method :

- Do from the windward as much as possible when you work extinguishing fire.
- Prohibit the entries other than parties concerned around the fire occurrence place.
- Cut the combustion source to the place where the fire started.
- Water the equipment of surroundings etc. and cool.

Protection of the person who extinguishes fire :

- Battle the fires from windward side, and wear the protective equipment.
- Wear the respiratory protective device because there is a possibility that a poisonous gas (carbon monoxide etc.) is generated by combustion or the high temperature.

6. ACCIDENTAL RELEASE MEASURES

- (1) Promptly remove fire source and combustible articles from the surrounding area of leakage.
- (2) Prepare proper fire extinguisher in preparation for the occurrence of fire.
- (3) In case where the leakage amount is small:
Absorb the solution with saw dust, soil and sand, waste cloth, paper, etc, and collect it to an empty container. After that, flush the surrounding area of leakage with adequate amount of water. Do not drain the cleaning water onto the ground or into drainage way.
- (4) In case where the leakage amount is large:
Prevent the outflow by sandbag, etc, and collect the solution by ladle into an empty container. Wear protective gloves, protective respirator and protective apron during the collection activity.
- (5) When the leakage occurred inside the room, adequately ventilate by opening doors and windows.
- (6) Pay attention so that the solution may not be discharged to the river or general drainage way.
- (7) The wastes must be disposed of in accordance with the applicable laws and regulations.
- (8) Collect the solution using tools made of plastic so as to avoid the generation of spark.

7. HANDLING AND STORAGE

Precaution for handling

- (1) Avoid to use the fire source, spark or substance of high temperature at the surrounding area.
- (2) Do not bring this solution near to the fire source.
- (3) Use this solution at well ventilated area, and tightly plug the container each time of use.
- (4) The hazardous substance in the amount equal to or larger than the specified quantity must be handled at the manufacturing site according to the standard specified in law.
- (5) Pay attention not to inhale the steam of sprayed mist.
- (6) Wear proper protective gears (protective gloves, protective respirator, protective apron, goggles, etc) which protect skin, eyes and head to prevent the exposure.
- (7) Adequately gargle, wash hands and face after handling this solution. Change the cloth if this solution adheres on the cloth.

Precaution for storage

- (1) Tightly plug the container and store it at well ventilated, cool and dark place avoiding the direct sun beam and high temperature.
- (2) Avoid the place where there is fire source, spark or substances of high temperature at the surrounding area.
- (3) Keep this solution away from strong oxidizing agent, strong base and strong acid.
- (4) Do not store this solution at the same place as the hazardous substance of different class.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Equipment measures :

- When a mist and steam are generated, sealing up of the outbreak source or the setting of the local exhaust is desirable.
- Establish the equipment for the eye washing and the body washing near the handling place.

Allowable concentration
Management density : There is no regulations.
Allowable concentration : ACGIH(2004) TWA 5mg/m³ (As mineral oil mist)

Protective gears:
Eye protector : Be careful so that this solution may not contact with the eyes.
Wear protective goggles if necessary.
Respiration protector : The protector is not necessary in normal cases, but wear gas mask if necessary.
Skin protector : Wear oil resistant glove and protective apron as necessary.
Others : Wear the electrically conductive safety shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color (appearance)	Brown
Color ASTM	3.5
Odor	Oil odor
Density	0.919g/cm ³ (15°C)
Flash point	136°C (276.8°F)
Initial boiling point	≥ 250°C
Flow point	-25.0°C
Explosion range	1.0~7.0vol%
Solubility to water	Not dissolve

10. STABILITY AND REACTIVITY

Oxidization	None
Self-reactivity and explosiveness	None
Stability	Chemically stable
Reactivity:	None
Others	Especially nothing

11. TOXICOLOGICAL INFORMATION

Acute toxicity	Taking orally rat LD ₅₀ > 5000mg/kg
Skin corrosiveness	None
Irritation	There is irritation to skin. There is irritation to eyes.
Causing sensitivity	None

12. ECOLOGICAL INFORMATION

Mobility	Spillages may penetrate the soil causing ground water contamination.
Presistence/degradability	This product is not expected to be readily biodegradable.
Bioaccumulation	There is no evidence to suggest bioaccumulation will occur.
Aquatic toxicity	May be harmful to aquatic organisms. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. DISPOSAL CONSIDERATIONS

The product and empty packing materials should be disposed of according to the local regulations and laws.

14. TRANSPORT INFORMATION

IMDG

This material is not classified as dangerous under IMDG regulations.

IACO/IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

No ingredient regulated by CA Prop 65 present.

Please follow all regulations in your country.

16. OTHER INFORMATION

Nothing.

NOTES:

Although written contents are created based on data and the information which have been obtained at present, they do not make what kind of guarantee about the data of a publication, or evaluation. Moreover, since the items mentioned are aimed at the usual handling, in carrying out special handling, please deal with it after implementing the safety measures which were newly suitable for a use and usage.