Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: SFSS-CD-80

General Characteristics: Petroleum Distillates (Petroleum hydrocarbon mixture)

Intended Use: Industrial Solvent

Hazard Classification: Flammable & Hazardous material to environment

Company Contact：TENOIT CO., LTD.
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Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
Petroleum Distillates， Hydrotreated Light distillates (Hydrotreated Kerosene)	64742-47-8	100%

Section 3 - HAZARDS IDENTIFICATION

A. Classification:

Skin corrosion/irritation : 2

Aspiration hazard : 1

B. Label element, including precautionary statements:

Symbols:

Signal word(s): Danger, Warning

Hazard & Risk statement(s):

- H304: May be fatal if swallowed and enters airways
- H315: Causes severe skin burns and eye damage

Precautionary statement(s):

Prevention

- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- 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.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P281: Use personal protective equipment as required.

Response

- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P331: Do NOT induce vomiting.
- P370+P378: In case of fire: Use ... for extinction.

Storage
- P405: Store locked up.
- P403: Store in a well-ventilated place.

Disposal
- P501: Dispose of contents/container to…

Other hazards which do not result in classification;
NFPA : Hygiene: 1, Fire: 2, Reactivity: 0

Section 4 - FIRST AID MEASURES

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SKIN CONTACT: Remove contaminated clothing and shoes.
Wash immediately with large amounts of water and soap for a minimum 15 minutes. Get medical attention. If symptoms persist, seek medical attention.
Launder sufficiently contaminated clothing before re-use otherwise get rid off it.

EYE CONTACT :Immediately flush eyes with running water for a minimum of 30 minutes. Flush eyes with 0.9% solution in sterilized saline occasionally lifting upper and lower lids for a minimum of 30 minutes or until cul-de-sacs are neutralized or no evidence of chemical remains. Get medical attention immediately. Inspect frequently.

INGESTION : Aspiration hazard. If swallowed, vomiting may occur spontaneously, but do not induce. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

Section 5 - FIRE FIGHTING MEASURES

A. Suitable extinguishing media:
1. Extinguishing media: Dry chemical, Carbon dioxide, Water, Normal foam.
2. Unsuitable extinguishing media: No data
3. Extinguish method: Use water to cool fire-exposed tanks, containers, and structures. Fight horizontal tank fires from side of the tank. Use foam if exposed to heat or flame.

B. Specific hazards arising from the chemical:

1. Toxicant from combustion
   Toxic substances created (e.g. CO, oxidized hydrocarbon and sulfur)
2. Fire and Explosion Hazards

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard

C. Special protective equipment and precautions for firefighters:

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.
Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.
Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam. See Section 16 for the NFPA 704 Hazard Rating.

Section 6 - ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures:

Prevent ignition, stop leak and ventilate the area. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Vapor can be controlled using a water fog. Water streams should not be directed to the liquid as this will cause the liquid to boil and generate more vapor. Keep personnel upwind from leak. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container.

B. Environmental precautions:

1. Air : No data
2. Soil : No data
3. Water : No data

C. Methods and materials for containment and cleaning up:

Collect liquid in an appropriate container or absorb with an inert material (e.g.,

vermiculite, dry sand, earth), and place in a chemical waste container.
Use non-sparking tools and equipment. Do not use combustible material, such as saw dust. Do not flush to sewer.

Section 7 - HANDLING AND STORAGE

A. Precautions for safe handling:

Use only in a well-ventilated area. Ground and bond containers when transferring material. NFPA class IA storage. Flash point is less than 73 degrees F and boiling point is less than 100 degrees F. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling. Never siphon by mouth.

B. Conditions for safe storage. including incompatibilities:

Keep away from heat, sparks, and flame. Keep container closed when not in use. Consult NFPA and / or OSHA codes for additional information.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

A. Exposure limits in the air of the workplace, biological limit values:

- KOSHA : No data
- ACGIH: TWA - 200 mg/m^3
- EU HSPA(Hydrocarbon Solvents Producers Association) : TWA - 1,200mg/m^3
- Biological exposure limits : No data

B. Appropriate engineering controls: Use with adequate ventilation.

C. Engineering controls: Good general ventilation should be sufficient to control airborne levels. If the materials may be explosive, explosion-proof facility shall be installed for the corresponding ventilation system. Check if the exposure is proper within the exposure criteria.

D. Personal protection measures:

Respiratory protection :

Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH/MSHA-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Eyes protection :

Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

Hands protection :

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Viton;

Human body protection :

Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Polyvinyl alcohol (PVA); Polyethylene; Neoprene; Nitrile; Viton; Polyurethane; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance (physical state, colour etc): Liquid / Colorless & Transparency
B. Odour: Typical hydrocarbon odor
C. pH: No data
D. Melting point/freezing point: No Data
E. Flash point: > 75℃ (P.M.C.C)
F. Vapour pressure: 0.55 mmHg (R.V.P.) at 38℃
G. Solubility in water: Insoluble (<0.1% of Water)
H. Vapor density: > 1 (Water=1)
I. Specific gravity: 0.810 ± 0.02 at 15℃
J. Viscosity: > 1.5 cSt
K. Boiling Point: 200~250℃
L. Aniline Point: <76℃
M. Copper corrosion: 1a for 100℃/2hr
N. Explosion/Flammability(limits in air): upper/lower: 5.0/0.5 vol%
O. Oxidation: No Data
P. **Molecular weight:** No Data (Mixture of Hydrocarbons)

Section 10 - STABILITY AND REACTIVITY

A. Chemical stability: Stable in normal temperature and pressure, and for normal usage
B. Toxicant generation possibility during reaction : Will not occur.
C. Conditions to avoid: Keep away from heat/sparks/open flames/hot surfaces and other ignition sources. - No smoking.
D. Materials to avoid: Oxidizing agent
E. Toxicant during decomposition :
Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants

Section 11 - TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposures:

Inhalation exposure: Harmful if inhaled

Ingestion exposure: Harmful if swallowed
Skin exposure: Harmful if absorbed through skin
Eye exposure: No data

B. Health hazards information:

Acute toxic
Oral: LD 50 > 5000 mg/kg - rat.
Dermal: LD 50 > 2000 mg/kg - rabbit.
Inhalation: No data.
Skin corrosion / irritation: No data
Serious eye damage / eye irritation: No data
Respiratory sensitization: N/A
Skin sensitization :N/A
Carcinogenicity : IARC Class 3
Germ cell mutagenicity : N/A
Reproductive toxicity :N/A
Specific target organ systemic toxicity (Single exposure) : N/A
Specific target organ systemic toxicity (repeated exposure) : N/A
Aspiration hazard : Category 1 (Which cause concern owing to the pulmonary edema and death that they cause human and laboratory animals are aspiration toxicity hazard)

Section 12 - ECOLOGICAL INFORMATION

A. Hazardous to the aquatic environment

Fish: LC, EC, IC 50 > 1000 mg/l
Crustacea : LC, EC, IC 50 > 1000 mg/l
Algea: LC, EC, IC 50 > 1000 mg/l

B. Persistence and degradability:

Persistence: No data
Degradability: No data

C. Bioaccumulative potential:

Bio-accumulation : BCF 207.7
Bio-degradability : (BiOWin 5 : rapid degraded)

D. Mobility in soil: No Data

E. Other adverse effects: No Data

Section 13 - DISPOSAL CONSIDERATIONS

A. Disposal methods: Dispose of in accordance with state, local and federal environmental regulations. This materials is a RCRA Hazardous waste.

B. Disposal cautions: Do not flush material to drain or storm sewer. Contract to authorized disposal service.

Section 14 - TRANSPORT INFORMATION

A. UN Number:1268
B. UN Proper Shipping Name : Petroleum Distillates,N.O.S.
C. Transport hazard class(es): 3
D. Packing group, if applicable: III
E. Environmental hazards: No data
F. Special precautions for user: Emergency management type of fire
F-E
Emergency management type of leak
S-E
G. Other requirements in domestic and other countries: No data

Section 15 - REGULATORY INFORMATION

Industrial safety and health act :Occupation environment measurement material
Toxic chemical substance subject to management act :Not determined
Dangerous material safety control act:
The Second class of petroleum of the fourth class of Hazardous substance
Dangerous material Class Ⅲ
Wastes Management act:
Waste liquid with oil of over 5% is classified as specified wastes
Other requirements in domestic and other countries:
- U.S. acts (OSHA, CERCLA, EPCRA, and Montreal protocol et.,al.)
SARA 311/312 (40CFR370.21)
- EC Classification
Classification : Carc. Cat. 2; R65
Risk phrases : R65
Safety phrases : S2, S23, S24, S62

Section 16- OTHER INFORMATION

This MSDS is made out on the basis of our knowledge and standard of EC.
References :
- KOSHA GHS MSDS(English) Data-base: (http://msds.kosha.or.kr/web/kosha/MsdsSearch.jsp)
- United States National Library of Medicine.
- EINECS (European Inventory of Existing Commercial chemical Substances)
- IARC(International Agency for Research on Cancer.)
- NIOSH (The National Institute for Occupational Safety and Health)
- ACGIH (American Conference of Governmental Industrial Hygienists.)
- IUCLID Dataset
- ICSC (International Chemical Safety Cards)- ILO

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