



Material Safety Data

Product Name : C9+

긴급전화번호 (Emerhency Telephone Number)
061 - 688 - 6117 (24 hours)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1. Product

- ☐ Product Name : C9+
- ☐ IMDG code name : PETROLEUM DISTILLATES, N.O.S.
- ☐ UN NO. : 1268

2. Advisable use and Restriction

- ☐ Advisable use : FUEL
- ☐ Restriction : Do not handle until all safety precautions have been read and understood.

3. Manufacturer information

- ☐ Manufacture company : YEOCHUN NCC
- ☐ Address: 2 Yeosusandan-3ro(205-6,Pyeongyeo-dong), Yeosu, Jeollanam-Do, Korea (555-210)
- ☐ Telephone: 82-61-688-6117

2. HAZARD IDENTIFICATION

1. Hazard classification

- FLAMMABLE LIQUIDS Category 3
- ASPIRATION HAZARD Category 1
- ACUTE AQUATIC HAZARD Category 1
- LONG-TERM AQUATIC HAZARD Category 1

2. Allocation label elements

- ☐ Symbol



- ☐ Signal Word : Danger

- ☐ Hazard statements

H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

○ Precautionary statements

– Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

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.

P243 Take precautionary measures against static discharge.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

– Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P331 Do not induce vomiting.

P370 + P378 In case of fire: Use alcohol foam, carbon dioxide or water spray for extinction.

P391 Collect spillage.

– Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

– Disposal

P501 Dispose of contents/container to (in accordance with local/ regional/ national/ international regulation)

3. Other hazard information not included in hazard classification (NFPA)

| Chemical Name | NFPA Level | | |
|--|------------|---------------|------------|
| | Health | Flamm ability | Reactivity |
| SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC | 2 | 1 | 0 |

3. INGREDIENT INFORMATION

| Components | Common name | CAS No. | PCT(W%) |
|--|--|------------|---------|
| SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC | SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC | 64742-94-5 | 100 |

4. FIRST AID MEASURES

1. Following eye contact

- Get medical aid immediately.
- In case of contact with material, immediately flush eyes with running water for at least 15 minutes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

- Seek immediate medical assistance.

2. Following skin contact

- For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.
- For minor skin contact, avoid spreading material on unaffected skin.
- Get medical aid immediately.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- In case of contact with material, immediately flush skin with running water for at least 15 minutes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Launder contaminated clothing and shoes before re-use.
- Remove and isolate contaminated clothing and shoes.
- Seek immediate medical assistance.
- Wash skin with soap and water.

3. Following inhalation

- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- Keep victim warm and quiet.
- Move to fresh air.
- Seek immediate medical assistance.

4. Following ingestion

- Get medical aid immediately.
- If unconscious but breathing, never give anything by mouth.
- Seek immediate medical assistance.

5. Advice to physician

- Do not apply drugs of the adrenaline ephedrine group.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE FIGHTING MEASURES

1. Suitable/Unsuitable extinguishing media

○ Suitable extinguishing media

- CO2.
- Dry chemical.
- For mixtures containing alcohol or polar solvent: Alcohol-resistant foam.
- Regular foam.
- Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
- Use dry sand or earth to smother fire.
- Water spray.

○ Unsuitable extinguishing media

- Direct water.
- High-pressure water.

2. Specific hazards arising from the chemical

- Pyrolytic product
- Risk of fire and explosion
 - Can form explosive mixtures at temperatures at or above the flashpoint.
 - Containers may explode when heated.
 - Fire may produce irritating and/or toxic gases.
 - Flammable liquid and vapour.
 - HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
 - May ignited from heat, friction or contamination.
 - May violently polymerize and result in fire and explosion.
 - Runoff may create fire or explosion hazard.
 - Some may burn but none ignite readily.
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- 3. Special protective equipment for firefighters
 - Cautions ; Most of liquids are lighter than water.
 - Contact may cause burns to skin and eyes.
 - Dike fire-control water for later disposal: do not scatter the material.
 - Evacuate area and fight fire from a safe distance.
 - Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
 - Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
 - Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
 - Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
 - Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
 - Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
 - Move containers from fire area if you can do it without risk.
 - Rescuers should put on appropriate protective gear.
 - Runoff may cause pollution.
 - Substance may be transported hot.

6. ACCIDENTAL RELEASE MEASURES

1. Health considerations and protective equipment
 - A vapor suppressing foam may be used to reduce vapors.
 - All equipment used when handling the product must be grounded.
 - Clean up spills immediately, observing precautions in Protective Equipment section.
 - Cover with plastic sheet to prevent spreading.
 - Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
 - Do not touch or walk through spilled material.
 - ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
 - Please note that materials and conditions to be avoided.

- Stop leak if you can do it without risk.
- The very fine particles can cause a fire or explosion, eliminate all ignition sources.
- Ventilate the contaminated area.

2. Environmental precautions

- Keep out of waterways.
- Prevent entry into waterways, sewers, basements or confined areas.

3. For cleaning up

- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.
- Dike and collect water used to fight fire.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Small Spill: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- Small Spill: Flush area with flooding quantities of water.
- Use clean non-sparking tools to collect absorbed material.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

7. HANDLING AND STORAGE

1. Precautions for safe handling

- Avoid any skin and eye contact when insert undiluted solution. Wash ... thoroughly after handling.
- Caution: Dangerous fire hazard when exposed to heat, or flame, sparks.
- Use adequate machine for prevention when package handling.
- Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)

2. Conditions for safe storage (including any incompatibilities)

- Choose a place that can be protected from strong oxidizers and acid.
- Drum Handling: Must work at safe place., Loading more than 3 stack is prohibited.
- Store containers: AOID the place where can be damage and contamination.
- Store in a cool/low-temperature, well-ventilated {dry} place {away from heat and ignition sources}

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1. Exposure exposure limits, Biological exposure standard :

| Components | Occupational exposure | ACGIH | Biological standard |
|--|-----------------------|-------------------|---------------------|
| SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC | No data available | No data available | No data available |

2. Appropriate engineering controls

- If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

3. Personal protection equipment

- Respiratory protection
 - If high frequency of use or exposure, wear air respirator.
- Eye protection
 - Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
 - Provide emergency showers and eyewash.
 - Wear face shield to protect eyes from scattering dust or hazardous liquid.
 - Wear suitable protective goggles and face shields.
- Hand protection
 - Wear Non-moisture permeable chemical resistance protective gloves(latex, nitrile rubber, PC) for prevent skin contact.
 - Wear insulated gloves.
 - Wear suitable protective gloves.
- Body protection
 - Wear suitable protective clothing.
 - When contact is likely wear chemical resistant, oil and grease resistant, non-moisture permeable shoes and clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|-----------------------------|
| Appearance | Black liquid |
| Odour | Characteristic odor |
| Odour threshold | No data available |
| pH Values | N/A |
| Melting point/freezing point | -60°C or below |
| Initial boiling point and boiling range | 158°C |
| Flash point | 49°C |
| Evaporation rate | No data available |
| Flammability(solid, gas) | Flammable liquid |
| Upper/lower flammability or explosive limits | 0.9~5.8 Vol % |
| Vapour pressure | Less than 1 kPa (25 °C) |
| Solubility(ies) | No data available |
| Vapor Densities | 4.29 (Air = 1) |
| Relative density | 0.90 ~ 0.97 (60/60°F) |
| n-octanol/water partition coefficient | No data available |
| Auto ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | 1 ~ 3 cSt (Kinematic, 40°C) |

| | |
|------------------------|-------|
| Molecular weight(mass) | 124.5 |
|------------------------|-------|

10. STABILITY AND REACTIVITY

1. Stability and hazardous reactivity

- Can form explosive mixtures at temperatures at or above the flashpoint.
- Containers may explode when heated.
- Fire may produce irritating and/or toxic gases.
- Fire may produce irritating, corrosive and/or toxic gases.
- Flammable liquid and vapour.
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- May cause toxic effects if inhaled.
- May violently polymerize and result in fire and explosion.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Runoff may create fire or explosion hazard.
- Some liquids produce vapors that may cause dizziness or suffocation.
- Some may burn but none ignite readily.
- Stable under normal temperatures and pressures.
- Vapor explosion hazard indoors, outdoors or in sewers.
- Vapors may form explosive mixtures with air.

2. Conditions to avoid

- Ignition source(heat, spark, flame, etc.).

3. Materials to avoid

- Combustibles, reducing material.
- Irritating and/or toxic gas.

4. Hazardous decomposition products

- Corrosive/toxic fume.
- Irritating, corrosive and/or toxic gas.

11. TOXICOLOGICAL INFORMATION

1. Exposure route information

- Oral, Dermal, Inhalation exposure is possible since Volatile liquid.

2. Health hazard information

- ※ No data of the product. thus data was described by the product component.

○ Acute toxicity

● Oral PRODUCT : N/A

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A / LD50 > 5000 mg/kg Rat

● Dermal PRODUCT : N/A

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A / LD50 > 2000 mg/kg Rabbit

● Inhalation-Gases PRODUCT : N/A

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A

- Inhalation-Vapours PRODUCT : No data
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data
- Inhalation-Dust/mist PRODUCT : N/A
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A
- SKIN CORROSION/IRRITATION PRODUCT : N/A
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A / Not irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION PRODUCT : N/A
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A / Not irritating Rabbit
- RESPIRATORY SENSITIZATION PRODUCT : No data
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data
- SKIN SENSITIZATION PRODUCT : N/A
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A / Not sensitising Guinea pig
- CARCINOGENICITY PRODUCT : No data
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data
 - OSHA : No data
 - Notice of Employment and Labor : No data
 - NTP : No data
 - IARC : No data
 - EU CLP : No data
 - ACGIH : No data
- GERM CELL MUTAGENICITY PRODUCT : N/A
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A / Negative Mouse
- REPRODUCTIVE TOXICITY PRODUCT : No data
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE PRODUCT : No data
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE PRODUCT : No data
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data
- ASPIRATION HAZARD PRODUCT : Category 1
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Category 1 / Aspiration of a petroleum distillate results in chemical pneumonitis. Human

12. ECOLOGICAL INFORMATION

1. Aquatic toxicity PRODUCT

- ACUTE AQUATIC HAZARD : Category 1, LONG-TERM AQUATIC HAZARD : Category 1

● Fish

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : LC50 45 mg/L/96h Fish(Pimephales promelas)

● Crustacea

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Category 1 / EC50 0.95 mg/L/48h Aquatic invertebrates(Daphnia magna)

- Aquatic algae

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : EC50 2.5 mg/L/72h Aquatic algae(Skeletonema costatum)

2. Persistence and degradation

- Degradation

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data

- n-octanol water partition coefficient

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : 2.9 ~ 6.1 log Kow

3. Bioaccumulative potential

- Bioaccumulation

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : 130 ~ 159

- Biodegradation

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : 39 (%) 28 day

4. Mobility in soil

- Soil adsorption coefficient(Koc)

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : No data

5. Other adverse effects

- Hazardous to ozone layer

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : N/A

- Others

- SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : LONG-TERM AQUATIC HAZARD Category 1

13. DISPOSAL CONSIDERATIONS

1. Disposal methods

- _ Separating oil and water / Burning oil components / remaining water is treated in the water pollution control facilities.
- Dispose of container and unused contents in accordance with all applicable regulations.

2. Precautions (including disposal of contaminated container of package)

- Do not allow spill material to enter sewers, storm water drains, soil, etc.
- Empty containers may explode and residues can be ignited when pressured, cut, weld, heated.
- Empty containers may rupture when pressured.
- Empty containers recycled under environmental laws.
- Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)

14. TRANSPORT INFORMATION

1. UN No : 1268

2. Proper shipping name : PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S

3. Class or division : 3

4. Packing group : III

5. Marine pollutant : Established
6. Special safety response for transportation or transportation measure :
- ☐ Emergency measures in case of fire : F-E
 - ☐ Emergency measures in the effluent : S-E

15. REGULATORY INFORMATION

- EU Classification (CLASSIFICATION) PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Xn; R65
- EU Classification (Risk Phrases) PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : R65
- EU Classification (Safety Phrases) PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : S:(2)-23-24-62
- 2006/507/EC PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Not established
- 689/2008/EC PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Not established
- Designation, Reportable Quantities, and Notification PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Not established
- Emergency Planning and Notification PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Not established
- Toxic Chemical Release Reporting – Community Right-to-Know PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Not established
- Process Safety Management of Highly Hazardous Chemicals PRODUCT : Not established
 - SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC : Not established

16. OTHER INFORMATION

1. Reference
- HSDB
 - IUCLID
 - OECD SIAM
 - Study report
2. Prepare date : 2015.03.10
3. Revised date
- 0.0.0 : 2015.03.10
 - 1.0.0 : 2017.03.16
 - 1.1.0 : 2017.06.26
 - 2.0.0 : 2018.01.31
 - 3.0.0 : 2019.07.11
 - 4.0.0 : 2020.12.01

4. Other

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.