

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

## IP Extraction Feed

|         |                |              |                                |
|---------|----------------|--------------|--------------------------------|
| Version | Revision Date: | SDS Number:  | Print Date: 04/01/2025         |
| 13.0    | 03/24/2025     | 800001001047 | Date of last issue: 01/23/2025 |

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### SECTION 1. IDENTIFICATION

|              |   |  |
|--------------|---|--|
| Product name | : | IP Extraction Feed   |
| Product code | : | X2156  |
| Synonyms     | : | Crude C5, Crude C5 Stream, Crude isoprene, Hydrocarbons C5-rich, IP Feed, Isoprene concentrate, Raw C5's |

#### Manufacturer or supplier's details

|                  |   |   |
|------------------|---|---|
| Company          | : | <b>Shell Chemical LP</b><br>PO Box 576<br>HOUSTON TX 77001<br>USA |
| SDS Request      | : | 1-800-240-6737  |
| Customer Service | : | 1-855-697-4355  |

#### Emergency telephone number

|                                |   |                |
|--------------------------------|---|----------------|
| Chemtrec Domestic (24 hr)      | : | 1-800-424-9300 |
| Chemtrec International (24 hr) | : | 1-703-527-3887 |

#### Recommended use of the chemical and restrictions on use

|                     |   |   |
|---------------------|---|---|
| Recommended use     | : | Chemical intermediate., Raw material for use in the chemical industry., For use as a component in fuel.   |
| Restrictions on use | : | Restricted to professional users., This product must not be used in applications other than the above without first seeking the advice of the supplier.<br>This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier. |

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                       |   |            |
|-----------------------|---|------------|
| Flammable liquids     | : | Category 1 |
| Acute toxicity (Oral) | : | Category 4 |
| Aspiration hazard     | : | Category 1 |

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|   |   |
|---|---|
| Acute toxicity (Dermal)                             | : Category 4  |
| Skin irritation                                     | : Category 2  |
| Eye irritation                                      | : Category 2A                                       |
| Specific target organ toxicity<br>- single exposure | : Category 3 (Respiratory system, Narcotic effects) |
| Germ cell mutagenicity                              | : Category 2  |
| Carcinogenicity                                     | : Category 1B                                       |
| Reproductive toxicity                               | : Category 2  |
| Long-term (chronic) aquatic<br>hazard               | : Category 2  |

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:  
H224 Extremely flammable liquid and vapour.  
HEALTH HAZARDS:  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H361 Suspected of damaging fertility or the unborn child.  
ENVIRONMENTAL HAZARDS:  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
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.

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P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
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/ doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P312 Call a POISON CENTER/ doctor if you feel unwell.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P322 Specific measures (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370+P378 In case of fire: Use appropriate media for extinction.  
P391 Collect spillage.

### Storage:

P235 Keep cool.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

### Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

### Other hazards which do not result in classification

This material is a static accumulator.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

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The vapour is heavier than air, spreads along the ground and distant ignition is possible.  
Will float and can be reignited on surface water.  
The classification of this material is based on OSHA HCS 2024 criteria.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

#### Hazardous components

| Chemical name         | Synonyms              | CAS-No.    | Concentration (% w/w) |
|-----------------------|-----------------------|------------|-----------------------|
| Hydrocarbons, C5-rich | Hydrocarbons, C5-rich | 68476-55-1 | <= 100                |

#### Further information

Contains:

| Chemical name                         | Identification number | Concentration (% w/w) |
|---------------------------------------|-----------------------|-----------------------|
| Isoprene                              | 78-79-5               | 10 - 30               |
| penta-1,3-diene                       | 504-60-9              | 10 - 20               |
| pentane                               | 109-66-0              | 15 - 20               |
| isopentane                            | 78-78-4               | 10 - 15               |
| cyclopentadiene                       | 542-92-7              | 5 - 12                |
| Dicyclopentadiene                     | 77-73-6               | 2 - 5                 |
| Benzene                               | 71-43-2               | >=0 - <0.1            |
| 1,3-butadiene                         | 106-99-0              | >=0 - <0.1            |
| TBP (tert-butylphenol)<br>- inhibitor | 27178-34-3            | <=0.015               |

### SECTION 4. FIRST-AID MEASURES

- General advice : Not expected to be a health hazard when used under normal conditions.
- If inhaled : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
- In case of skin contact : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Transport to the nearest medical facility for additional treatment.
- If swallowed : Call emergency number for your location / facility. If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

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|  | <p>If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Rinse mouth.</p>   |
| Most important symptoms and effects, both acute and delayed                | <p>: Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.</p> <p>Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.</p> <p>Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.</p> <p>Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.</p> <p>Ingestion may result in nausea, vomiting and/or diarrhoea. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.</p> <p>If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.</p> <p>Damage to blood-forming organs may be evidenced by: a) fatigue and anaemia (RBC), b) decreased resistance to infection, and/or excessive bruising and bleeding (platelet effect). Heart damage may be evidenced by shortness of breath and, in severe cases, by collapse (cardiac arrest).</p> |
| Protection of first-aiders   | <p>: When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.</p>   |
| Indication of any immediate medical attention and special treatment needed | <p>: IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!</p> <p>Call a doctor or poison control center for guidance.</p> <p>Potential for chemical pneumonitis.</p> <p>Treat symptomatically.</p> <p>Artificial respiration and/or oxygen may be necessary.</p>  |

### SECTION 5. FIRE-FIGHTING MEASURES

|                                       |   |  |
|---------------------------------------|---|--|
| Suitable extinguishing media          | : | Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.       |
| Unsuitable extinguishing media        | : | Do not use water in a jet.   |
| Specific hazards during fire-fighting | : | Carbon monoxide may be evolved if incomplete combustion occurs.<br>Will float and can be reignited on surface water. |

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The vapour is heavier than air, spreads along the ground and distant ignition is possible.  
Flammable vapours may be present even at temperatures below the flash point.

- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : Clear fire area of all non-emergency personnel.  
Keep adjacent containers cool by spraying with water.
- Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Observe all relevant local and international regulations.  
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.  
Local authorities should be advised if significant spillages cannot be contained.  
Avoid contact with skin, eyes and clothing.  
Isolate hazard area and deny entry to unnecessary or unprotected personnel.  
Do not breathe fumes, vapour.  
Do not operate electrical equipment.
- Environmental precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Methods and materials for containment and cleaning up : For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.  
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely

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Observe all relevant local and international regulations.

### Additional advice

- : For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
- Risk of explosion. Inform the emergency services if liquid enters surface water drains.
- For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.
- Vapour may form an explosive mixture with air.
- Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
- U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Section 15) to the National Response Center at (800) 424-8802.

## SECTION 7. HANDLING AND STORAGE

### Technical measures

- : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
- Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
- Ensure that all local regulations regarding handling and storage facilities are followed.

### Advice on safe handling

- : Avoid inhaling vapour and/or mists.
- Avoid contact with skin, eyes and clothing.
- Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
- The vapour is heavier than air. Beware of accumulation in pits and confined spaces.
- Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
- Bulk storage tanks should be diked (bunded).
- Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
- Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.
- If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.
- Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges.
- These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vac-

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|  | <p>uum truck operations, and mechanical movements.<br/>These activities may lead to static discharge e.g. spark formation.<br/>Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<math>\leq 1</math> m/s until fill pipe submerged to twice its diameter, then <math>\leq 7</math> m/s). Avoid splash filling.<br/>Do NOT use compressed air for filling, discharging, or handling operations.<br/>Inhibitor levels should be maintained.<br/>Protect against light.</p>  |
| Avoidance of contact                     | : Strong oxidising agents.<br>Strong acids.<br>Strong bases.<br>Copper alloys  |
| Product Transfer                         | : If positive displacement pumps are used, these must be fitted with a non-integral pressure relief valve. Refer to guidance under Handling section.   |
| Further information on storage stability | : Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment.<br>Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat.<br>Must be kept inhibited during storage and shipment as material can polymerise.<br>Vapours from tanks should not be released to atmosphere.<br>Breathing losses during storage should be controlled by a suitable vapour treatment system.<br>Nitrogen blanket recommended.<br>Electrostatic charges will be generated during pumping.<br>Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.<br>The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.<br>Reacts with atmospheric oxygen. Material contains a stabilizer to inhibit oxidative colour change.<br>Prolonged storage of the product can cause the stabiliser to lose its effectiveness.<br>The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerise with heat evolution. |
| Packaging material                       | : Suitable material: For containers, or container linings use mild steel, stainless steel.<br>Unsuitable material: Copper., Copper alloys.   |
| Specific use(s)                          | : Not applicable   |

See additional references that provide safe handling practices



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for liquids that are determined to be static accumulators:  
American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or  
National Fire Protection Agency 77 (Recommended Practices on Static Electricity).  
IEC/TS 60079-32-1: Electrostatic hazards, guidance

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| Components            | CAS-No.    | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis  |
|-----------------------|------------|----------------------------------|--|--|
| Hydrocarbons, C5-rich | 68476-55-1 | TWA                              | 500 ppm<br>2,000 mg/m3                         | OSHA Z-1   |
| Isoprene              | 78-79-5    | TWA                              | 3 ppm<br>8.4 mg/m3                             | Shell Internal Standard (SIS) for 8 hour TWA.    |
| pentane               | 109-66-0   | TWA                              | 1,000 ppm<br>2,950 mg/m3                       | OSHA Z-1   |
| pentane               |            | TWA                              | 1,000 ppm                                      | ACGIH  |
| isopentane            | 78-78-4    | TWA                              | 1,000 ppm                                      | ACGIH  |
| cyclopentadiene       | 542-92-7   | TWA                              | 0.5 ppm  | ACGIH  |
| cyclopentadiene       |            | STEL                             | 1 ppm  | ACGIH  |
| cyclopentadiene       |            | TWA                              | 75 ppm<br>200 mg/m3                            | OSHA Z-1   |
| Dicyclopentadiene     | 77-73-6    | TWA                              | 0.5 ppm  | ACGIH  |
| Dicyclopentadiene     |            | STEL                             | 1 ppm  | ACGIH  |
| Benzene               | 71-43-2    | TWA                              | 0.25 ppm<br>0.8 mg/m3                          | Shell Internal Standard (SIS) for 8-12 hour TWA. |
| Benzene               |            | STEL                             | 2.5 ppm<br>8 mg/m3                             | Shell Internal Standard (SIS) for 15 min (STEL)  |
| <b>Benzene</b>        |            | TWA                              | 0.02 ppm                                       | ACGIH  |
| Benzene               |            | STEL                             | 2.5 ppm  | ACGIH  |
| Benzene               |            | PEL                              | 1 ppm  | OSHA CARC  |
| Benzene               |            | STEL                             | 5 ppm  | OSHA CARC  |
| Benzene               |            | TWA                              | 10 ppm   | OSHA Z-2   |
| Benzene               |            | CEIL                             | 25 ppm   | OSHA Z-2   |
| Benzene               |            | Peak                             | 50 ppm<br>(10 minutes)                         | OSHA Z-2   |
| 1,3-butadiene         | 106-99-0   | TWA                              | 2 ppm  | ACGIH  |
| 1,3-butadiene         |            | PEL                              | 1 ppm  | OSHA CARC  |
| 1,3-butadiene         |            | STEL                             | 5 ppm  | OSHA CARC  |
| 1,3-butadiene         |            | TWA                              | 1 ppm  | OSHA Z-1   |
| 1,3-butadiene         |            | STEL                             | 5 ppm  | OSHA Z-1   |

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### Biological occupational exposure limits

| Components    | CAS-No.  | Control parameters                           | Biological specimen              | Sam-pling time   | Permissible concentra-tion        | Basis     |
|---------------|----------|--|----------------------------------|--|-----------------------------------|-----------|
| Benzene       | 71-43-2  | S-Phenylmercapturic acid                     | Urine                            | End of shift (As soon as possible after exposure ceases) | 25 µg/g creatinine                | ACGIH BEI |
|               |          | t,t-Muconic acid                             | Urine                            | End of shift (As soon as possible after exposure ceases) | 500 µg/g creatinine               | ACGIH BEI |
| 1,3-butadiene | 106-99-0 | 1,2 Dihydroxy-4-(N-acetylcysteinyl)-butane   | Urine                            | End of shift (As soon as possible after exposure ceases) | 2.5 mg/l                          | ACGIH BEI |
|               |          | Mixture of N-1 and N-2(hydroxybutenyl)valine | Hemoglobin (Hb) adducts in blood | Not critical   | 2.5 picomoles per gram Hemoglobin | ACGIH BEI |

### Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods <http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances <http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany <http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

### Engineering measures

- : Use sealed systems as far as possible.
- Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
- Local exhaust ventilation is recommended.
- Eye washes and showers for emergency use.

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Firewater monitors and deluge systems are recommended. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

### General Information

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when there is potential for inhalation; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

### Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type AX boiling point  $\leq 65^{\circ}\text{C}$  ( $149^{\circ}\text{F}$ )].

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection  
Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Viton.

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Incidental contact/Splash protection: Nitrile rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

- Eye protection : Wear goggles for use against liquids and gas.  
Wear full face shield if splashes are likely to occur.
- Skin and body protection : Wear chemical and cold resistant gloves/gauntlets, and boots, and apron.
- Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Thermal hazards : Not applicable
- Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet.  
Launder contaminated clothing before re-use.

### Environmental exposure controls

- General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.  
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.  
Information on accidental release measures are to be found in section 6.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid.
- Colour : Colourless to light coloured

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|  |   |   |
|--|---|---|
| Odour  | : | strong  |
| Odour Threshold  | : | not determined  |
| pH   | : | Data not available  |
| Melting point/freezing point   | : | Data not available  |
| Boiling point/boiling range  | : | 34 - 60 °C / 93 - 140 °F                                    |
| Flash point  | : | < -20 °C / < -4 °F  |
| Evaporation rate   | : | Data not available  |
| Flammability   |   |   |
| Flammability (solid, gas)  | : | Data not available  |
| Lower explosion limit and upper explosion limit / flammability limit |   |   |
| Upper explosion limit / Upper flammability limit                     | : | 12 %(V)   |
| Lower explosion limit / Lower flammability limit                     | : | 1 %(V)  |
| Vapour pressure  | : | 58.4 kPa (20 °C / 68 °F)                                    |
| Relative vapour density  | : | 2.3   |
| Relative density   | : | 0.7 (20.0 °C / 68.0 °F)<br>Method: ASTM D4052               |
| Density  | : | 678 kg/m <sup>3</sup> (20 °C / 68 °F)<br>Method: ASTM D4052 |
| Solubility(ies)  |   |   |
| Water solubility   | : | insoluble   |
| Solubility in other solvents   | : | Data not available  |
| Partition coefficient: n-octanol/water                               | : | Data not available  |
|  |   | Data not available  |
| Auto-ignition temperature  | : | > 200 °C / 392 °F   |
| Decomposition temperature  | : | Data not available  |
| Viscosity  |   |   |
| Viscosity, dynamic   | : | Typical 0.25 mPa.s (0 °C / 32 °F)<br>Method: ASTM D445      |

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Typical 0.22 mPa.s (20 °C / 68 °F)

Method: ASTM D445

|                      |                                       |
|----------------------|---------------------------------------|
| Viscosity, kinematic | : Data not available                  |
| Explosive properties | : Classification Code: Not classified |
| Oxidizing properties | : Data not available                  |
| Surface tension      | : Data not available                  |
| Conductivity         | : Low conductivity: < 100 pS/m        |

The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

|                  |                      |
|------------------|----------------------|
| Molecular weight | : Data not available |
| Particle size    | : Data not available |

### SECTION 10. STABILITY AND REACTIVITY

|                                    |  |
|------------------------------------|--|
| Reactivity                         | : Prolonged exposure to air may lead to peroxide formation.<br>Reacts with strong oxidising agents.  |
| Chemical stability                 | : The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerise with heat evolution.<br>Reacts violently with:<br>Nitric, sulphuric and chlorosulphuric acids.<br>Oxidises on contact with air to form unstable peroxides.<br>Polymerisation may occur at elevated temperatures.<br>Normally stable under ambient conditions and if properly inhibited. |
| Possibility of hazardous reactions | : Normally stable under ambient conditions and if properly inhibited.  |
| Conditions to avoid                | : Heat, flames, and sparks.<br>Exposure to air.<br>Exposure to sunlight.<br>In certain circumstances product can ignite due to static electricity.   |
| Incompatible materials             | : Strong oxidising agents.<br>Strong acids.  |

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Strong bases.  
Copper alloys

Hazardous decomposition  
products

: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

### SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment

: Information given is based on data obtained from similar substances.  
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

#### Information on likely routes of exposure

Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

#### Acute toxicity

##### Product:

Acute oral toxicity

: LD50 (Rat, male and female): > 300 - 2,000 mg/kg  
Method: Test(s) equivalent or similar to OECD Test Guideline 401  
Remarks: Harmful if swallowed.

Acute inhalation toxicity

: Remarks: May be harmful if inhaled.

Acute dermal toxicity

: LD50 (Rabbit, male): 1,183 mg/kg  
Method: Literature data  
Remarks: Harmful in contact with skin.

##### Components:

##### **Hydrocarbons, C5-rich:**

Acute oral toxicity

: LD 50 (Rat, male and female): >300 <=2000 mg/kg  
Method: Test(s) equivalent or similar to OECD Test Guideline 401  
Remarks: Harmful if swallowed.

Acute inhalation toxicity

: LC 50 (Rat, male and female): > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Test(s) equivalent or similar to OECD Test Guideline 403  
Remarks: Based on available data, the classification criteria are not met.

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Acute dermal toxicity : LD 50 (Rabbit, male): 1,183 mg/kg  
Method: Literature data  
Remarks: Harmful in contact with skin.

### Skin corrosion/irritation

#### Product:

Species: Rabbit  
Method: Literature data  
Remarks: Harmful in contact with skin.

#### Components:

##### Hydrocarbons, C5-rich:

Species: Rabbit  
Method: OECD Test Guideline 404  
Remarks: Causes skin irritation.

### Serious eye damage/eye irritation

#### Product:

Species: Rabbit  
Method: Literature data  
Remarks: Causes serious eye irritation.

#### Components:

##### Hydrocarbons, C5-rich:

Species: Rabbit  
Method: Literature data  
Remarks: Causes serious eye irritation.

### Respiratory or skin sensitisation

#### Product:

Species: Guinea pig  
Method: Test(s) equivalent or similar to OECD Test Guideline 406  
Remarks: Based on available data, the classification criteria are not met.

#### Components:

##### Hydrocarbons, C5-rich:

Species: Guinea pig  
Method: Test(s) equivalent or similar to OECD Test Guideline 406  
Remarks: Based on available data, the classification criteria are not met.

### Germ cell mutagenicity

#### Product:

Genotoxicity in vitro : Method: Test(s) equivalent or similar to OECD Test Guideline  
473



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|                                    |   |
|------------------------------------|---|
|                                    | Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo and in-vitro assays.   |
|                                    | : Method: Literature data<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo and in-vitro assays.  |
| Genotoxicity in vivo               | : Test species: Mouse<br>Method: OECD Test Guideline 474<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo assays.                                |
|                                    | Test species: Mouse<br>Method: Test(s) equivalent or similar to OECD Test guideline 478<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo assays. |
| Germ cell mutagenicity- Assessment | : Weight of evidence does not support classification as a germ cell mutagen.  |

### Components:

#### **Hydrocarbons, C5-rich:**

|                                    |   |
|------------------------------------|---|
| Genotoxicity in vitro              | : Method: Test(s) equivalent or similar to OECD Test Guideline 473<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo and in-vitro assays.         |
|                                    | : Method: Literature data<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo and in-vitro assays.  |
| Genotoxicity in vivo               | : Test species: Mouse<br>Method: OECD Test Guideline 474<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo assays.                                |
|                                    | Test species: Mouse<br>Method: Test(s) equivalent or similar to OECD Test guideline 478<br>Remarks: Suspected of causing genetic defects., Mutagenic; positive in in-vivo assays. |
| Germ cell mutagenicity- Assessment | : This product does not meet the criteria for classification in categories 1A/1B.   |

### **Carcinogenicity**

#### Product:

Species: Mouse, (male and female)  
Application Route: Inhalation  
Method: Other guideline method.

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Remarks: May cause cancer., IARC Group 2B: Possibly carcinogenic to humans.

Species: Rat, (male and female)

Application Route: Inhalation

Method: Test(s) equivalent or similar to OECD Test Guideline 453

Remarks: May cause cancer., IARC Group 2B: Possibly carcinogenic to humans.

Carcinogenicity - Assessment : May cause cancer.

### Components:

#### **Hydrocarbons, C5-rich:**

Species: Mouse, (male and female)

Application Route: Inhalation

Method: Other guideline method.

Remarks: May cause cancer., IARC Group 2B: Possibly carcinogenic to humans.

Species: Rat, (male and female)

Application Route: Inhalation

Method: Test(s) equivalent or similar to OECD Test Guideline 453

Remarks: May cause cancer., IARC Group 2B: Possibly carcinogenic to humans.

Carcinogenicity - Assessment : May cause cancer.

### **IARC**

Group 2B: Possibly carcinogenic to humans

Hydrocarbons, C5-rich

68476-55-1

### **OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **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.

### **Reproductive toxicity**

#### Product:

Effects on fertility : Remarks: Suspected of damaging fertility or the unborn child.

Effects on foetal development : Species: Rat, male and female  
Application Route: Inhalation  
Method: OECD Test Guideline 422  
Remarks: Based on available data, the classification criteria are not met.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

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### Components:

#### **Hydrocarbons, C5-rich:**

Effects on fertility

:  
Species: Rat  
Sex: male and female  
Application Route: Inhalation

Method: OECD Test Guideline 422

Remarks: Based on available data, the classification criteria are not met.

Effects on foetal development

: Species: Rat, male and female  
Application Route: Inhalation  
Method: OECD Test Guideline 422  
Remarks: Based on available data, the classification criteria are not met.

Reproductive toxicity - Assessment

: This product does not meet the criteria for classification in categories 1A/1B.

### **STOT - single exposure**

#### Product:

Exposure routes: Inhalation

Target Organs: Central nervous system, Respiratory Tract

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea., Inhalation of vapours or mists may cause irritation to the respiratory system., May cause drowsiness and dizziness., May cause respiratory irritation.

### Components:

#### **Hydrocarbons, C5-rich:**

Exposure routes: Inhalation

Target Organs: Central nervous system, Respiratory Tract

Remarks: Inhalation of vapours or mists may cause irritation to the respiratory system., May cause drowsiness or dizziness., May cause respiratory irritation., High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.

### **STOT - repeated exposure**

#### Product:

Remarks: Based on available data, the classification criteria are not met.

### Components:

#### **Hydrocarbons, C5-rich:**

Remarks: Based on available data, the classification criteria are not met.

### **Repeated dose toxicity**

#### Product:

Species: Rat, male and female

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Application Route: Oral  
Method: Test(s) equivalent or similar to OECD Test Guideline 422  
Target Organs: No specific target organs noted

Species: Rat, male and female  
Application Route: Inhalation  
Method: Test(s) equivalent or similar to OECD Test Guideline 422  
Target Organs: No specific target organs noted

### **Components:**

#### **Hydrocarbons, C5-rich:**

Species: Rat, male and female  
Application Route: Oral  
Method: Test(s) equivalent or similar to OECD Test Guideline 422  
Target Organs: No specific target organs noted

Species: Rat, male and female  
Application Route: Inhalation  
Test atmosphere: vapour  
Method: Test(s) equivalent or similar to OECD Test Guideline 422  
Target Organs: No specific target organs noted

### **Aspiration toxicity**

#### **Product:**

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### **Components:**

#### **Hydrocarbons, C5-rich:**

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### **Further information**

#### **Product:**

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

### **Components:**

#### **Hydrocarbons, C5-rich:**

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

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## SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this substance.  
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

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### Ecotoxicity

#### Components:

##### Hydrocarbons, C5-rich:

- Toxicity to fish (Acute toxicity) : LL50 (Oncorhynchus mykiss (rainbow trout)): 14.1 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Harmful  
LL/EL/IL50 >10 <= 100 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) : EC50 (Daphnia magna (Water flea)): 4.7 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Toxic  
LL/EL/IL50 > 1 <= 10 mg/l
- Toxicity to algae (Acute toxicity) : EC50 (Pseudokirchneriella subcapitata (algae)): 12.4 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Harmful  
LL/EL/IL50 >10 <= 100 mg/l
- Toxicity to fish (Chronic toxicity) : Remarks: Data not available
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: Data not available
- Toxicity to microorganisms (Acute toxicity) : NOELR (Activated sludge, domestic waste): 2 mg/l  
Exposure time: 5 h  
Method: OECD Test Guideline 301D  
Remarks: Data not available

### Persistence and degradability

#### Components:

##### Hydrocarbons, C5-rich:

- Biodegradability : Biodegradation: 9 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D  
Remarks: Not readily biodegradable.

### Bioaccumulative potential

#### Components:

##### Hydrocarbons, C5-rich:

- Bioaccumulation : Species: Pimephales promelas (fathead minnow)  
Bioconcentration factor (BCF): 1.2 - 2.1  
Method: Based on quantitative structure-activity relationship

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(QSAR) modelling  
Remarks: Does not bioaccumulate significantly.

### Mobility in soil

#### Components:

#### Hydrocarbons, C5-rich:

Mobility : Remarks: Floats on water.

### Other adverse effects

#### Components:

#### Hydrocarbons, C5-rich:

Results of PBT and vPvB assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Recover or recycle if possible.  
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water courses.  
Waste product should not be allowed to contaminate soil or water.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.  
Local regulations may be more stringent than regional or national requirements and must be complied with.

## SECTION 14. TRANSPORT INFORMATION

### National Regulations

#### 49 CFR

UN/ID/NA number : UN 3295  
Proper shipping name : HYDROCARBONS, LIQUID, N.O.S.  
Class : 3  
Packing group : I  
Labels : 3  
Reportable quantity : ISOPRENE  
(100 lb)

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N-PENTANE  
(100 lb)  
ERG Code : 128  
Marine pollutant : no

### International Regulations

#### IATA-DGR

UN/ID No. : UN 3295  
Proper shipping name : HYDROCARBONS, LIQUID, N.O.S.  
Class : 3  
Packing group : I  
Labels : 3

#### IMDG-Code

UN number : UN 3295  
Proper shipping name : HYDROCARBONS, LIQUID, N.O.S.  
(hydrocarbons, C5-rich)  
Class : 3  
Packing group : I  
Labels : 3  
Marine pollutant : yes

### Maritime transport in bulk according to IMO instruments

Pollution category : Y  
Ship type : 2  
Product name : IP Extraction Feed (contains Isoprene; 1,3-Cyclopentadiene dimer (molten))

### Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

**Additional Information** : This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.  
Transport in bulk according to Annex II of Marpol and the IBC Code

## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

| Components    | CAS-No.  | Component RQ<br>(lbs) | Calculated product RQ<br>(lbs) |
|---------------|----------|-----------------------|--------------------------------|
| Isoprene      | 78-79-5  | 100                   | 333                            |
| 1,3-butadiene | 106-99-0 | 10                    | *                              |

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|                        |                 |            |             |
|------------------------|-----------------|------------|-------------|
| <b>Benzene</b>         | <b>71-43-2</b>  | <b>10</b>  | <b>*</b>    |
| <b>penta-1,3-diene</b> | <b>504-60-9</b> | <b>100</b> | <b>500*</b> |

\*: Calculated RQ exceeds reasonably attainable upper limit.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Aspiration hazard  
Germ cell mutagenicity  
Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

### US State Regulations

#### Pennsylvania Right To Know

Hydrocarbons, C5-rich

68476-55-1

#### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

### The components of this product are reported in the following inventories:

AIIC : Listed  
DSL : Listed  
TSCA : Listed  
IECSC : Listed  
TCSI : Listed



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### SECTION 16. OTHER INFORMATION

#### Further information

NFPA Rating (Health, Fire, Reactivity) 2, 4, 2

#### Full text of other abbreviations

|                            |  |
|----------------------------|--|
| ACGIH                      | : USA. ACGIH Threshold Limit Values (TLV)  |
| ACGIH BEI                  | : ACGIH - Biological Exposure Indices (BEI)  |
| OSHA CARC                  | : OSHA Specifically Regulated Chemicals/Carcinogens  |
| OSHA Z-1                   | : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants   |
| OSHA Z-2                   | : USA. Occupational Exposure Limits (OSHA) - Table Z-2   |
| ACGIH / TWA                | : 8-hour, time-weighted average  |
| ACGIH / STEL               | : Short-term exposure limit  |
| OSHA CARC / PEL            | : Permissible exposure limit (PEL)   |
| OSHA CARC / STEL           | : Excursion limit  |
| OSHA Z-1 / TWA             | : 8-hour time weighted average   |
| OSHA Z-1 / STEL            | : Short Term Exposure Limit  |
| OSHA Z-2 / TWA             | : 8-hour time weighted average   |
| OSHA Z-2 / CEIL            | : Acceptable ceiling concentration   |
| OSHA Z-2 / Peak            | : Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift   |
| Abbreviations and Acronyms | : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites. |

ACGIH = American Conference of Governmental Industrial Hygienists  
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road  
AICS = Australian Inventory of Chemical Substances  
ASTM = American Society for Testing and Materials  
BEL = Biological exposure limits  
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes  
CAS = Chemical Abstracts Service  
CEFIC = European Chemical Industry Council  
CLP = Classification Packaging and Labelling  
COC = Cleveland Open-Cup  
DIN = Deutsches Institut für Normung  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
DSL = Canada Domestic Substance List  
EC = European Commission  
EC50 = Effective Concentration fifty  
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals  
ECHA = European Chemicals Agency  
EINECS = The European Inventory of Existing Commercial Chemical Substances  
EL50 = Effective Loading fifty

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ENCS = Japanese Existing and New Chemical Substances Inventory  
EWC = European Waste Code  
GHS = Globally Harmonised System of Classification and Labelling of Chemicals  
IARC = International Agency for Research on Cancer  
IATA = International Air Transport Association  
IC50 = Inhibitory Concentration fifty  
IL50 = Inhibitory Level fifty  
IMDG = International Maritime Dangerous Goods  
INV = Chinese Chemicals Inventory  
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables  
KECI = Korea Existing Chemicals Inventory  
LC50 = Lethal Concentration fifty  
LD50 = Lethal Dose fifty per cent.  
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading  
LL50 = Lethal Loading fifty  
MARPOL = International Convention for the Prevention of Pollution From Ships  
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level  
OE\_HPVS = Occupational Exposure - High Production Volume  
PBT = Persistent, Bioaccumulative and Toxic  
PICCS = Philippine Inventory of Chemicals and Chemical Substances  
PNEC = Predicted No Effect Concentration  
REACH = Registration Evaluation And Authorisation Of Chemicals  
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail  
SKIN\_DES = Skin Designation  
STEL = Short term exposure limit  
TRA = Targeted Risk Assessment  
TSCA = US Toxic Substances Control Act  
TWA = Time-Weighted Average  
vPvB = very Persistent and very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.

|| There has been an increase in the Health Hazard classification of this product in section 2. Ensure that the related sections (particularly sections 4, 8 & 11) are carefully studied.

Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID data base, EC 1272 regulation, etc).

Revision Date : 03/24/2025

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR  
1910.1200

## IP Extraction Feed

Version  
13.0

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