

# SAFETY DATA SHEET

Prepared according to GB/T 16483, GB/T 17519

## HFE Crude Alcohols

800010059299

Version 1.2

Revision Date 2023.08.23

Print Date 2023.08.30

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : HFE Crude Alcohols

#### Manufacturer or supplier's details

Supplier : SHELL EASTERN CHEMICALS (S)  
A REGISTERED BUSINESS OF SHELL EASTERN  
TRADING (PTE) LTD (UEN:198902087C)  
9 North Buona Vista Drive , #07-01  
The Metropolis Tower 1  
Singapore 138588  
Singapore

Telephone : +65 6384 8269  
Telefax : +65 6384 8454  
Contact for Safety Data Sheet : If you have any enquiries about the content of this SDS  
please email [sccmsds@shell.com](mailto:sccmsds@shell.com) 如果您有关于该SDS内容的  
任何质询, 请发电邮联系 [sccmsds@shell.com](mailto:sccmsds@shell.com)

Emergency telephone number : +86-532-83889090

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

Recommended use : Intermediate Refinery Stream.

Restrictions on use : This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

Appearance	liquid
Colour	Data not available
Odour	Hydrocarbon

#### GHS Classification

Flammable liquids : Category 3  
Skin irritation : Category 2  
Specific target organ toxicity - single exposure : Category 3  
Aspiration hazard : Category 1  
Eye irritation : Category 2  
Short-term (acute) aquatic hazard : Category 1  
Long-term (chronic) aquatic : Category 1

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hazard

### GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: PHYSICAL HAZARDS:  
H226 Flammable liquid and vapour.  
HEALTH HAZARDS:  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
ENVIRONMENTAL HAZARDS:  
H400 Very toxic to aquatic life.  
H410 Very 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.  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P331 Do NOT induce vomiting.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
**Storage:**  
P403 Store in a well-ventilated place.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards which do not result in classification

None known.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Alcohols, C8-19	Not Assigned		85 - 95
Alkanes, C7-18	Not Assigned		5 - 20
Alkenes, C7-18	Not Assigned		5 - 15

### 4. FIRST-AID MEASURES

- 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 : Flush eyes with water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision, or swelling persist transport to the nearest medical facility for additional treatment.
- If swallowed : 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. 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. Give nothing by mouth.
- Most important symptoms and effects, both acute and delayed : If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache and nausea.
- Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

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Notes to physician : Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Large fires should only be fought by properly trained fire fighters.  
Alcohol-resistant 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 firefighting : Will only burn if enveloped in a pre-existing fire.  
Hazardous combustion products may include:  
Carbon dioxide  
Unidentified organic and inorganic compounds.  
Toxic gases  
Carbon monoxide.
- Specific extinguishing methods : Standard procedure for chemical fires.  
Clear fire area of all non-emergency personnel.  
All storage areas should be provided with adequate fire fighting facilities.  
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).

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Observe all relevant local and international regulations.  
: Avoid contact with skin, eyes and clothing.  
Avoid inhaling vapour and/or mists.  
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
- Environmental precautions : Remove all possible sources of ignition in the surrounding area.  
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.  
Use appropriate containment to avoid environmental contamination.  
Ventilate contaminated area thoroughly.

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- Methods and materials for containment and cleaning up : 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. 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. Proper disposal should be evaluated based on regulatory status of this material (refer to Section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area.
- Additional advice : For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

## 7. HANDLING AND STORAGE

### Handling

- General Precautions : 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 : In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. Use local exhaust extraction over processing area. Avoid unintentional contact with isocyanates to prevent uncontrolled polymerisation. Avoid contact with skin, eyes and clothing. Air-dry contaminated clothing in a well-ventilated area before laundering. Do not empty into drains. Handling Temperature: Ambient. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.

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- Avoidance of contact : Avoid contact with isocyanates, copper and copper alloys, zinc, strong oxidizing agents, and water.
- Product Transfer : Lines should be purged with nitrogen before and after product transfer. Keep containers closed when not in use.

### Storage

- Conditions for safe storage : Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
- Storage period : 24 month(s)
- Other data : Prevent all contact with water and with moist atmosphere.  
Tanks must be clean, dry and rust-free.  
Prevent ingress of water.  
Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat.  
Nitrogen blanket recommended for large tanks (capacity 100 m3 or higher).  
Drums should be stacked to a maximum of 3 high.

Storage Temperature:  
Ambient.

Storage should be handled at temperatures such that viscosities are less than 500 cSt; typically at 25-50 °C.  
Tanks should be fitted with heating coils in areas where the ambient temperatures are below the recommended product handling temperatures. Heating coil skin temperatures should not exceed 100 °C.

- Packaging material : Suitable material: Stainless steel., For container paints, use epoxy paint, zinc silicate paint.  
Unsuitable material: Copper., Copper alloys.

- Specific use(s) : Not applicable

Ensure that all local regulations regarding handling and storage facilities are followed.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Components with workplace control parameters

None established.

### Biological occupational exposure limits

No biological limit allocated.

### Personal protective equipment

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### Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

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 suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations.

Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C (149°F)].

Hand protection  
Remarks

: 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. 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. 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.

Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough time of > 240 minutes.) For incidental contact/splash protection Neoprene, PVC gloves may be suitable.

Eye protection : Wear goggles for use against liquids and gas. If a local risk assessment deems it so then chemical splash goggles may not be required and safety glasses may provide adequate eye protection.

Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where risk of splashing, also wear an apron.

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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.  
Information on accidental release measures are to be found in section 6.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : Data not available

Odour : Hydrocarbon

Odour Threshold : Data not available

pH : Data not available

Melting point/freezing point : Data not available

Flash point :  $\geq 63\text{ }^{\circ}\text{C}$  /  $145\text{ }^{\circ}\text{F}$   
Method: Unspecified

Evaporation rate : Data not available

Flammability (solid, gas) : Not applicable

Upper explosion limit : no data available

Lower explosion limit : 1 %(V)

Vapour pressure : Data not available

Density :  $\leq 1,000\text{ kg/m}^3$  ( $15.0\text{ }^{\circ}\text{C}$  /  $59.0\text{ }^{\circ}\text{F}$ )  
Method: Unspecified

Solubility(ies)

Water solubility : Data not available

Solubility in other solvents : Data not available

Partition coefficient: n-octanol/water : Data not available

Auto-ignition temperature : ca.  $250\text{ }^{\circ}\text{C}$  /  $482\text{ }^{\circ}\text{F}$



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### Viscosity

Viscosity, kinematic : Data not available

Explosive properties : Classification Code: Not classified

Oxidizing properties : Not applicable

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 semiconductive, 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

## 10. STABILITY AND REACTIVITY

Reactivity : The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

Chemical stability : No hazardous reaction is expected when handled and stored according to provisions Hygroscopic.

Possibility of hazardous reactions : Polymerises exothermically with di-isocyanates at ambient temperatures.  
The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of reaction partners is good or is supported by stirring or by the presence of solvents.  
Reacts with strong oxidising agents.

Conditions to avoid : Heat, flames, and sparks.  
Product cannot ignite due to static electricity.

Incompatible materials : Avoid contact with isocyanates, copper and copper alloys, zinc, strong oxidizing agents, and water.

Hazardous decomposition products : Unknown toxic products may be formed.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

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### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitisation

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

Material	GHS/CLP Carcinogenicity Classification
Alcohols, C8-19	No carcinogenicity classification.
Alkanes, C7-18	No carcinogenicity classification.
Alkenes, C7-18	No carcinogenicity classification.

### Reproductive toxicity

no data available

### STOT - single exposure

no data available

### STOT - repeated exposure

no data available

### Aspiration toxicity

no data available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

#### Product:

Partition coefficient: n-octanol/water

: Remarks: Data not available

### Mobility in soil

no data available

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### Other adverse effects

no data available

## 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.
- Contaminated packaging : Drain container thoroughly.  
After draining, vent in a safe place away from sparks and fire.  
Send to drum recoverer or metal reclaimer.  
Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
- Local legislation  
Remarks : If potential for exposure exists refer to Section 8 for specific personal protective equipment.

## 14. TRANSPORT INFORMATION

### National Regulations

### International Regulations

#### ADR

- UN number : 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Alcohols, C8-19, Alkenes, C7-18)
- Class : 9  
Packing group : III  
Labels : 9  
Hazard Identification Number : 90

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Environmentally hazardous : yes

### IATA-DGR

UN/ID No. : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Alcohols, C8-19, Alkenes, C7-18)

Class : 9

Packing group : III

Labels : 9

### IMDG-Code

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Alcohols, C8-19, Alkenes, C7-18)

Class : 9

Packing group : III

Labels : 9

Marine pollutant : yes

### Maritime transport in bulk according to IMO instruments

Pollution category : Not applicable

Ship type : Not applicable

Product name : Not applicable

Special precautions : Not applicable

### 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** : MARPOL Annex 1 rules apply for bulk shipments by sea.

## 15. REGULATORY INFORMATION

### National regulatory information

GB 6944-2012: Classification and Code of Dangerous Goods.

GB/T 16483-2008: Safety Data Sheet for Chemical Products Content and Order of Sections.GB 30000 Rules for classification and labelling of chemicals.

GB 12268-2012: List of Dangerous Goods.

GBZ 2.1-2007: Occupational Exposure Limits for Hazardous Agents in the Workplace Part 1: Chemical Hazardous Agents. National Catalogue of Hazardous Wastes.

GB/T 17519-2013 Guidance on the compilation of safety data sheet for chemical products.

### Regulations on Safety Management of Hazardous Chemicals

## 16. OTHER INFORMATION

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### Abbreviations and Acronyms

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

### Further information

Other information : This product is intended for use in closed systems only.

### Disclaimer

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.

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