



Anvol CF 22

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## Section 1. Identification

<b>GHS product identifier</b>	Anvol CF 22
<b>Product code</b>	455920-FR01
<b>SDS no.</b>	455920
<b>Relevant identified uses of the substance or mixture and uses advised against</b>	
<b>Use of the substance/ mixture</b>	Fire-resistant hydraulic fluid. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
<b>Manufacturer Supplier</b>	BP-Castrol (Thailand) Limited Samut Sakon Industrial Estate, 39/77-78 Moo 2 Rama II Road, Bangkachao Amphur Muang, Samut Sakorn 74000 Tel. +66 34 419666, Fax. +66 34 419666
<b>EMERGENCY TELEPHONE NUMBER</b>	Carechem: 001800 1 2066 6751 (tollfree, access from Thailand only)
<b>OTHER PRODUCT INFORMATION</b>	Please contact at Technical Service Section Tel no.+ 662-684-3555

## Section 2. Hazards identification

<b>GHS Classification</b>	ACUTE TOXICITY: ORAL - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): ORAL [kidneys] - Category 2
<b>GHS label elements Hazard pictograms</b>	 
<b>Signal word</b>	Warning
<b>Hazard statements</b>	H302 - Harmful if swallowed. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H373 - May cause damage to organs through prolonged or repeated exposure if swallowed. (kidneys)
<b>Precautionary statements</b>	
<b>Prevention</b>	P280 - Wear protective gloves. Wear eye or face protection. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
<b>Response</b>	P314 - Get medical attention if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
<b>Storage</b>	Not applicable.
<b>Disposal</b>	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

### Other hazards which do not result in classification

Note: High Pressure Applications  
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.  
See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

## Section 3. Composition/information on ingredients

### Substance/mixture

Mixture

Ethylene glycol; ethanediol. Proprietary performance additives.

Ingredient name	%	CAS number
Diethylene glycol; 2,2'-oxybisethanol	10 - 20	111-46-6
Ethylene glycol	10 - 20	107-21-1
2-Dimethylaminoethanol	1 - 5	108-01-0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

#### Inhalation

In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

#### Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention.

#### Skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

#### Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

#### Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### Indication of immediate medical attention and special treatment needed, if necessary

#### Specific treatments

No specific treatment.

#### Notes to physician

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications  
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis.  
Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

## Section 5. Fire-fighting measures

### Extinguishing media

#### Suitable

In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

#### Not suitable

Do not use water jet.

### Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst.

### Hazardous thermal decomposition products

Combustion products may include the following:  
carbon oxides (CO, CO<sub>2</sub>) (carbon monoxide, carbon dioxide)  
nitrogen oxides (NO, NO<sub>2</sub> etc.)

## Section 5. Fire-fighting measures

### Special precautions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

### Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Contact emergency personnel.

#### For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

### Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

#### Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### Large spill

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapour or mist.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### Conditions for safe storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

#### Not suitable

Prolonged exposure to elevated temperature.

## Section 8. Exposure controls/personal protection

### Control parameters

Ingredient name	Exposure limits
Ethylene glycol	<b>ACGIH TLV (United States).</b> C: 100 mg/m <sup>3</sup> Issued/Revised: 5/1995 Form: Aerosol

## Section 8. Exposure controls/personal protection

### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye protection

Safety glasses with side shields.

#### Skin protection

##### Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

##### Skin protection

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

## Section 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Colour	Colourless.
Odour	Not available.
Odour threshold	Not available.
pH	9.3
Melting point	Not available.

## Section 9. Physical and chemical properties

<b>Boiling point</b>	Not available.
<b>Drop Point</b>	Not available.
<b>Flash point</b>	[Product does not sustain combustion.]
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable. Based on - Physical state
<b>Lower and upper explosive (flammable) limits</b>	Not available.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Density</b>	1070 kg/m <sup>3</sup> (1.07 g/cm <sup>3</sup> ) at 15°C
<b>Solubility</b>	Soluble in water.
<b>Partition coefficient: n-octanol/water</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Kinematic: 23 mm <sup>2</sup> /s (23 cSt) at 40°C Kinematic: 115 to 135 mm <sup>2</sup> /s (115 to 135 cSt) at 0°C

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	Reactive or incompatible with the following materials: oxidising materials.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** Routes of entry anticipated: Dermal, Inhalation.

### Potential acute health effects

#### **Eye contact**

Causes serious eye irritation.

#### **Inhalation**

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

#### **Skin contact**

Causes skin irritation.

#### **Ingestion**

Harmful if swallowed. Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

#### **Eye contact**

Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

#### **Inhalation**

No specific data.

#### **Skin contact**

Adverse symptoms may include the following:  
irritation  
redness

#### **Ingestion**

Adverse symptoms may include the following:  
nausea or vomiting

### Potential chronic health effects

#### **General**

May cause damage to organs through prolonged or repeated exposure if swallowed.

#### **Carcinogenicity**

No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

## Section 12. Ecological information

**Environmental effects** No known significant effects or critical hazards.

**Persistence and degradability**

Biodegradable

**Bioaccumulative potential**

This product is not expected to bioaccumulate through food chains in the environment.

**Mobility** Spillages may penetrate the soil causing ground water contamination.

**Other adverse effects** No known significant effects or critical hazards.

**Other ecological information** Miscible in water.

## Section 13. Disposal considerations

**Disposal methods** The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	IMDG	IATA
<b>UN number</b>	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-
<b>Transport hazard class(es)</b>	-	-
<b>Packing group</b>	-	-
<b>Environmental hazards</b>	No.	No.
<b>Additional information</b>	-	-

**Special precautions for user** Not available.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## Section 15. Regulatory information

### Regulation according to other foreign laws

<b>REACH Status</b>	The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.
<b>United States inventory (TSCA 8b)</b>	All components are listed or exempted.
<b>Australia inventory (AICS)</b>	All components are listed or exempted.
<b>Canada inventory status</b>	All components are listed or exempted.
<b>China inventory (IECSC)</b>	All components are listed or exempted.
<b>Japan inventory (ENCS)</b>	At least one component is not listed.
<b>Korea inventory (KECI)</b>	All components are listed or exempted.
<b>Philippines inventory (PICCS)</b>	All components are listed or exempted.
<b>Harmful Chemicals List I</b>	Listed

## Section 16. Other information

### History

<b>Date of issue/Date of revision</b>	14/11/2012.
<b>Date of previous issue</b>	No previous validation.
<b>Prepared by</b>	Product Stewardship

 Indicates information that has changed from previously issued version.

### Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.