

## PRODUCT DATA SHEET & MSDS



### DESCRIPTION

BLUE CUT 1 is a multifunctional, biostable, semi synthetic, soluble cutting fluid designed to deliver optimum machining performance whilst exhibiting excellent sump life and resistance to bacterial growth. It is blended with a high level of biocides, emulsifiers and foam suppressants and is free from sodium nitrate and phenols. BLUE CUT 1 is a multipurpose metal working fluid and therefore reduces the number of cutting oils to be stocked.

### PRODUCT FEATURES

- Biostable formulation resists bacterial growth and offers extended sump life
- Excellent tool life and surface finish
- Good anti-corrosion properties
- Superior cooling and wetting ability
- High degree of operator acceptability

### APPLICATION

BLUECUT 1 may be considered for use in a broad range of metal cutting operations on a wide variety of metals including cast iron, carbon and alloy steels. Water containing metalworking fluids should not be used for machining operations on magnesium-containing metals. May stain aluminium and yellow metals.

### RECOMMENDED CONCENTRATIONS

OPERATION	CONCENTRATION
Automatic Machines	3 %
Drilling	3 %
Turning	3 %
Milling	4 %
Sawing	5 %
Broaching	5 %
Thread Cutting	5 %

### PHYSICAL PROPERTIES

PROPERTY	TYPICAL
Appearance	Clear blue fluid
Density @ 20°C	1.1kg/l
pH Value @ 5 %	9.5
Odour	Slight Amine
Flash Point	>100°C

All reasonable care has been taken to ensure that the information contained in this Product Data Sheet is accurate at the date of issue. It should be noted, however, that the information may be effected by changes, subsequent to the date of issue, in the blend formulation or the requirements of any third party specification relating to this product or the methods of application. Final determination of suitability of any material is the sole responsibility of the user.

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#### 1. PRODUCT IDENTIFICATION

Product	:	Semi-synthetic soluble cutting fluid concentrate.
Company Identification	:	BLUE CUT 1.
Product Use	:	Broad range of metal cutting operations on a wide variety of ferrous metals

#### 2. COMPOSITION

		<u>CAS NO.</u>
Chemical Composition	: Chlorinated paraffins	- 63449-39-8 (Blend)
	: Boric acid amine salt	- (Trade Secret)
	: Hexahydro-1,3,5,-tris (2-hydroxyethyl)-s-triazine	- 4719-04-4
	: Solution 3-Iodo-2-propynyl butylcarbamate	- 55406-53-6

#### 3. HAZARDS IDENTIFICATION

Health and Safety	:	The concentrate is strongly irritating to the eye with a potential to cause corneal injury if treatment is not prompt. The concentrate may cause irritation to the skin, which could become more intense if not promptly removed or if contact is frequent or prolonged.
Environmental	:	The product contains mineral oil, which will not readily biodegrade in anaerobic conditions and therefore can be environmentally persistent. For further information, refer to Section 12 Ecological information.
Special Hazards	:	During use, metalworking emulsions may become contaminated with metal particles and metal salts, other lubricants, and microbiological contaminants. These may increase the irritancy of the emulsion, and in some cases (e.g. contamination by chromium, cobalt and nickel) may be capable of inducing other additional hazards. Small amounts of nitrosamines may be formed if sodium nitrite is added.

#### 4. FIRST AID MEASURES

Eye Contact	:	Flush eyes thoroughly with water ensuring that eyelids are held open. Obtain medical advice if any irritation occurs.
Skin Contact	:	Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin thoroughly. If irritation persists obtain medical attention.
Ingestion	:	Not expected to be a problem. If large quantities of this product are ingested obtain medical advice. DO NOT induce vomiting unless directed so by medical personnel. Never give anything by mouth to an unconscious person. For smaller quantities, rinse mouth with water. Drinking milk or water may be beneficial.
Inhalation	:	Avoid excessive inhalation of mists, fumes or vapour. This causes irritation to the nose, throat, and coughing. Remove person from exposure. If symptoms persist obtain medical advice.

#### 5. FIRE FIGHTING MEASURES

Flammability	:	High-energy sources may induce combustion of the undiluted product. The diluted emulsions do not support combustion. Flash Point: > 100°C (Closed Cup) Auto Ignition Temp: > 150°C Flammability Limits: Not Established
Extinguishing media	:	In case of fire use water sprays, fog or standard foam is recommended. DO NOT USE water jets. Water may be used to cool nearby heat exposed areas /objects. Avoid spraying directly into storage containers because of the danger of boil-over. Move container away from fire area if you can do it without risk.
Special hazards	:	Fires in confined areas should be dealt with by trained personnel wearing approved breathing apparatus. Toxic fumes may be evolved on burning or exposure to heat.
Protective clothing	:	Use suitable protective breathing apparatus.

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### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Any spillages should be regarded as a potential fire risk. In the event of spillage, remove all sources of ignition and ensure good ventilation. Spilled material may make surface slippery. Clean up spilled material immediately. It is advised that stocks of suitable absorbent material should be held in quantities sufficient to deal with any spillage which may be reasonably anticipated.
- Environmental precautions : Do not wash product into drainage systems, protect drains from potential spills to minimize contamination. In the case of spillage on water, prevent the spread of product by the use of suitable barrier equipment. Recover from the surface. Protect environmentally sensitive areas and water supplies. Minimize contact of spilled material with soils to prevent runoff to surface waterways.
- Small Spills : For small spills clean up the material immediately. Contain and recover spilled material using sand or other suitable inert absorbent material.
- Large Spills : Recovery of large spills should be affected by specialist personnel.

### 7. HANDLING AND STORAGE

- Handling precautions : Avoid contact with skin and observe good personal hygiene. Avoid contact with eyes. If splashing is likely to occur wear a Semi face visor or chemical goggles as appropriate. Avoid frequent or prolonged skin contact with fresh or used product. Wash hands thoroughly after contact. Use disposable cloths and discard when soiled. Do not put soiled cloths in pockets. Take necessary precautions against accidental spillage into soil and water. Good working practices, high standards of personal hygiene and plant cleanliness must be maintained at all times. Please note this product has a shelf life of 6 months.
- Storage precautions : Store under cover away from heat and sources of ignition.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Occupational Exposure Limits: There is no appropriate occupational exposure limit to this material. However, it is derived from components, which have individual established OES's / TLV's (see section 2)
- Engineering controls : The control measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. If vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

#### *Personal Protective Equipment*

- Respiratory system : Respiratory protection is unnecessary, provided the concentration of vapour, mists or fumes is adequately controlled. The use of respiratory equipment must be strictly in accordance with any statutory requirements governing its selection and use.
- Hands : Use chemical resistant, impervious gloves.
- Eyes : Safety glasses with side shields. Goggles with a face shield may be necessary depending on conditions of use.
- Skin : Disposable outer garments where there is the potential for contact with the material.
- Industrial Hygiene : Adopt normal good working practices and personal hygiene standards. Wash hands after use, before eating, drinking, or smoking, and before and after using the toilet. Contaminated clothing should be laundered before re-use.

### 9. PHYSICAL PROPERTIES

PROPERTY	TYPICAL
Appearance	Blue Fluid
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### 10. STABILITY AND REACTIVITY

- Conditions to avoid : Sources of ignition. Thermal decomposition products will vary with conditions. Incomplete combustion will generate smoke, carbon dioxide and hazardous gasses, including carbon monoxide.
- Incompatible Materials : Avoid contact with strong oxidizing agents (egg. chlorates, peroxides) and strong acids. May soften some rubbers and other elastomeric sealing materials
- Stability : Stable at ambient temperatures and unlikely to react in a hazardous manner under normal conditions of use. Hazardous polymerization reactions will not occur.

### 11. TOXICOLOGICAL INFORMATION

- Eyes : Eye contact with the undiluted product may cause strong irritation and stinging. There may be a potential to cause corneal injury if treatment is not prompt. Dilute emulsions are expected to cause only slight transient irritation or redness.
- Skin : **Dermal LD50: >2500 (rabbits, expected LD50)**  
Contact with the concentrate may cause moderate irritation. Prepared emulsions are surface active and slightly alkaline, and prolonged or repeated contact with them, especially if the emulsions are over-strength, may cause defatting of the skin, slight irritation and dermatitis.
- Inhalation : **Inhalation LC50: Not established**  
The product is unlikely to present any significant inhalation hazard at ambient temperatures. High temperatures or atomising systems may lead to generation of vapours, mists or fumes which could cause irritation to eyes and respiratory tract. Repeated excessive exposures to oil mists may cause respiratory damage and a condition resembling pneumonia.
- Ingestion : **ORAL LD50: >2500 (rats, expected LD50)**  
The product has a low order of acute oral toxicity – ingestion is not regarded as a significant health hazard likely to arise in normal use. Swallowing significant quantities may cause discomfort, nausea, irritation of digestive tract, and diarrhoea. Aspiration into the lungs caused by vomiting or regurgitation following ingestion can be hazardous with possible resultant chemically induced pneumonia.
- Chronic Toxicity : There are no reports of long-term adverse toxic effects in man attributable to the use of this type of product.
- Carcinogenicity : No carcinogenic effects are normally anticipated with this type of product. All mineral oils incorporated in the product have been highly refined.
- Note: : Contamination of emulsions during use may introduce additional hazards.

### 12. ECOLOGICAL INFORMATION

- Aquatic toxicity: : The individual components range from readily to poorly biodegradable. Mineral oil has limited biodegradability when tested by method CEC L-33-T-82. The components are not expected to be highly toxic to aquatic life. If released to water, the product may deplete the oxygen supply to bottom dwelling organisms. Nitrosamines may be formed with the nitrogen content in the water or in the presence of nitrites. The product contains a small amount of boron: water-soluble borates are widely distributed naturally in the soil and sea.
- Soil : Small quantities will be absorbed in the upper soil layers where biodegradation may take place. Larger quantities may penetrate into anaerobic soil layers in which some of the organic compounds (e.g. mineral oil) may persist. Whilst many of the components have a high soil absorption coefficient, some will be capable of penetrating the soil to cause ground water contamination. Mineral oil can have a potential to bio accumulate. Boron is an essential micronutrient for plants – but it is phytotoxic in higher concentrations.
- Biodegradability : This product is inherently biodegradable.
- Bio-accumulation : There is no evidence to suggest bio-accumulation will occur.
- Mobility : Spillages may penetrate the soil causing ground and water contamination.

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### 13. DISPOSAL CONSIDERATIONS

Disposal Methods : Where possible, arrange for the product to be recycled. Dispose via an authorized person / licensed waste disposal conductor in accordance with local regulations.

### 14. TRANSPORT INFORMATION

ADR Classification : Not classified as dangerous goods  
UN Classification : Not classified  
Marine Pollutant : No  
UN Shipping Name: Not classified as dangerous goods  
UN Number : Not Applicable  
UN Labels : Not Applicable  
UN Pack group : Not Applicable  
IMO / IMDG Class : Not classified as dangerous goods  
IATA / CAO : Not classified as dangerous goods

### 15. REGULATORY INFORMATION

Classification : Xi: Skin and Eye irritant

Risk Phrases : R36/38: Irritating to eyes and skin

Safety Phrases : S24: Avoid contact with skin.  
: S25: Avoid contact with eyes.  
: S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Note : The above classification applies to the undiluted product as supplied. It does not apply when the product is diluted for use at the correct operating strength.

#### DISCLAIMER

The information provided in this data sheet and the health, safety and environmental information it contains, is correct to the best of our knowledge at the date of publication. However, neither Blue Chip Lubricants (Pty) Ltd nor any of its affiliates, accept any liability whatsoever for the accuracy or completeness of the information contained herein. Since this information may be applied under conditions beyond our control, we do not accept any responsibility for the results of its use. Final determination of suitability of any material is the sole responsibility of the user.