



Since 1993

NATURAL COUNTRY SDN. BHD. (309445-V)

天然環保有限公司

Environmental Monitoring & Control Specialist

No. 55C, Jalan Goh Hock Huat, 41400 Klang, Selangor Darul Ehsan, Malaysia.

Tel : 03-33436992/3 Fax : 03-33436955 E-mail : csraj55@yahoo.com Website : www.natural-country.com

Warehouse: 40, Jalan Tampin 2, Off Jalan Goh Hock Huat, 41400 Klang, Selangor Darul Ehsan.

COMPANY PROFILE

NC 215

NC
1993

NC 10348

NC 215

NC 1993

FILTER 1

FILTER 2

Natural Country Sdn Bhd was formed in 1993 with a mission to help local companies in complying with environmental regulation in Malaysia. From that modest beginning, the Environmental Group has grown into a multi-disciplinary team of staff with expertise in environmental engineering, civil engineering and environmental science.

OUR SERVICES

Statutory Compliance



Natural Country Sdn Bhd has experience in working with regulation agencies, thus providing the best approach or solution in the shortest time.

Engineering Design

Natural Country Sdn Bhd provides consultancy and engineering design services on :

- | | |
|--|---|
| ◆ Air pollution control systems | ◆ Minimization of waste production |
| ◆ Industrial water treatment system | ◆ Deionization and ultra pure water system |
| ◆ Pilot scale study and laboratory analytical | ◆ Water softening and drinking water |
| ◆ Wastewater treatment systems and related chemicals | ◆ Improvement and upgrading of existing treatment & air pollution control systems |

Project Management

Natural Country Sdn Bhd can assist in implementing recommended solution with our Project Management Team who specialises in :

- | | |
|---|---|
| ◆ Preparation of tender documents | ◆ Scheduling of project |
| ◆ Source of contractor | ◆ Training of operators |
| ◆ Preparing plant operation manual | ◆ Providing budget estimates of treatment systems |
| ◆ Obtaining approval from local authorities | ◆ Installation inspection and commissioning of treatment system |
| ◆ Water and wastewater chemical supply | ◆ Rubber recovery chemicals, mutant bacteria (Bio-Plant) |

OUR FACILITIES

Natural Country Sdn Bhd has excellent facilities to provide back up services.

These include :

- | | |
|---|------------------------|
| ◆ Pilot scale activated sludge process system | ◆ Biological incubator |
| ◆ Dissolved air floatation unit | ◆ Equipments |
| ◆ Jar tester - Coagulant and Flocculant screening | ◆ COD / BOD testing |

OUR CLIENTS

- | | |
|---|--------------------------|
| ◆ Electroplating and metal finishing industry | ◆ Electronic industry |
| ◆ Food and dairy related industry | ◆ Industrial kitchen |
| ◆ Palm oil / rubber effluent | ◆ Real estate |
| ◆ Chemical manufacturing industry | ◆ Printing industry |
| ◆ Textile industry | ◆ Petrochemical industry |
| ◆ Chemical blending / formulating industry | |



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NC - FLOC 215

NCSB Speciality Chemical

WATER / WASTEWATER TREATMENT CHEMICAL

DESCRIPTION

NC-FLOC 215 is a liquid blend of polymerised Aluminium salt used as coagulant in raw and wastewater treatment.

- ◆ **NC-FLOC 215** works in wider range of pH compare to Aluminium Sulphate. It is effective from pH 5 to 10.
- ◆ **NC-FLOC 215** lowers pH and alkalinity less than that of alum and iron salts thus reduces the need for post pH adjustment. It therefore saves cost on alkali consumption.

GENERAL SPECIFICATION

Appearance..... Clear liquid.
Specific Gravity..... 1.15 ± 0.05
pH..... 2.5 ± 0.5
Shelf-life(40°C)..... < 3months

TREATMENT & DOSAGE

NC-FLOC 215 could be dosed directly without dilution. The best treatment dilution required will have to be determined by plant operation conditions. However diluted solution should not be kept for more than 3 days.

HANDLING

The product has a low order of toxicity but may be irritating to skin or eyes due to its acidic nature. Splashes should be washed immediately with plenty of fresh water. It should not be stored under direct sunlight or at temperature higher than 40°C.

PACKING

NC-FLOC 215 is available in 25kg and 250kg drums.



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NCSB Speciality Chemical

NC - FLOC 1993

WATER / WASTEWATER TREATMENT CHEMICAL

DESCRIPTION

NC - FLOC 1993 is a liquid, high molecular weight liquid flocculant which is effective in dewatering industrial sludge, clarifying water, thickening and dewatering mineral concentrates and waste suspensions.

HIGH PERFORMANCE

- ◆ Very high molecular weight gives rapid settling and high underflow density.
- ◆ Highly effective in dewatering sludge from paper mill, rolling mill, blast furnace scrubber water and pickle liquor effluents.
- ◆ Singularly efficient as a coagulant aid in clarifying raw water, process water containing silica and coal suspensions.
- ◆ Highly effective for leach residues and chemical precipitates.
- ◆ Works at wide pH range and high hardness waters.
- ◆ Increase filtration rates, producing dryness in sludge cakes.

ECONOMICAL

- ◆ Effective at low dosage.
- ◆ High activity improves cost performance.

CONVENIENT

- ◆ Liquid flocculant is easy to feed with good accuracy.
- ◆ Dissolves rapidly, leaving no insolubles ("fish eye").

GENERAL SPECIFICATION

Appearance.....	Clear colourless liquid
Specific Gravity.....	1.0 ± 0.05
Viscosity.....	1000-2500 cps @ 25 °C
Shelf-life (10-40 °C).....	< 2 months
Freezing point.....	-15 °C
Flash point.....	> 95 °C

TREATMENT AND DOSAGE REQUIREMENT

NC - FLOC 1993 is normally dosed as a dilute solution of 0.5 to 1.5 %. Suggested dosage levels are :-

Raw and Waste Water Flocculant.....	0.3 - 5.0 ppm
Raw and Waste Water Filtration Aid.....	0.05 - 0.5 ppm
Sludge Conditioning Agent.....	1 - 10 Kg/ton sludge
Mineral Thickening.....	2.5 - 50g/ton solid

HANDLING

The product have a low of toxicity and is not irritating to skin or eyes. Consequently only normal measure of personal hygiene and plant housekeeping should be needed in handling this product. Spills are slippery and should be flushed immediately with water.

PACKING

NC-FLOC 1993 is available is 25kg and 250kg drums.



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NCSB Specialty Chemical

NC-FLOC 771

WASTEWATER TREATMENT CHEMICAL

DESCRIPTION

NC-FLOC 771 is liquid polyelectrolyte of medium molecular weight. Excellent zinc removal from latex washing containing low D.R.C content compounding waste and leaching wastewater.

PRODUCT ADVANTAGES

- ◆ Evaluated by LGM
- ◆ Fast flocculation
- ◆ Zinc
- ◆ Low pollution load reduce aeration time
- ◆ Clear supernatant
- ◆ High reduction in COD, BOD, S.S and

ECONOMICAL

- ◆ Effective at low dosage levels
- ◆ Handling costs are minimised
- ◆ Perform well under pH 10

TREATMENT AND DOSAGE REQUIREMENT

A stock solution of **NC-FLOC 771** should be metered to the system via corrosion resistant positive displacement pump and diluted to 100:1 with JBA water prior to being fed to the system. Effective and best results are obtained by dispersing the feed stream and promoting high turbulence for rapid mixing. For ideal and correct dosage consult Natural Country's representative.

GENERAL SPECIFICATION

Appearance	Amber liquid
Specific Gravity (25°C)	1.0 – 1.1
pH	5.5 – 7.5
Solubility in water	Infinite
Shelf life	> 12 months

PACKING

NC-FLOC 771 is available in 25Kg/drum or 250Kg/drum.



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NCSB Speciality Chemical

NC - 155
MICRO - NUTRIENT

DESCRIPTION

NC-155 is a special blend of inorganic nutrients used in wastewater treatment to promote proper growth of bacteria.

Biological treatment process is aimed primarily at reducing organic content in wastewater. In many industrial wastewater, nutrients may not be present in sufficient quantities. Thus, the addition of **NC-155** is necessary for the proper growth of bacteria and the subsequent degradation of organic waste.

NC-155 is useful during the start-up of new treatment plants. It is also important when a nutrient control strategy is implemented in treatment processes.

GENERAL SPECIFICATION

Bulk density..... 0.7
Moisture(100 °C)..... 0.5%
Water insolubles..... 0.1%

TREATMENT

Nutrient requirement of treatment processes depends on many parameters. We suggest **NC-155** to be used at about 500mg/l of effluent on initial start-up.

HANDLING

NC-155 is non-toxic. However, avoid inhaling fine particles as it may lead to irritation of the respiratory system. Use mask when handling **NC-155**.

PACKING

Packing available in 25kg/drum or 250 Kg/drum.



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NCSB| Biochemical Product Data

NC-BACT 1004

WASTEWATER TREATMENT CHEMICAL

DESCRIPTION

NC-BACT 1004 is a special mixture of mutant bacteria designed to remove detergents, phenols and emulsifiers from wastewater emanating form textile and textile chemical industries. The processes which generate these wastewater's include : chemical formulating, wool scouring, knitting, weaving, resizing, dyeing, finishing, bleaching, printing and coating.

NC-BACT 1004 Features

- ◆ Removal of emulsifiers, detergents, phenols.
- ◆ Improved oxygen transfer.
- ◆ Improved efficiency of BOD and COD reduction.
- ◆ Reduction of Coliform Count.
- ◆ Elimination of Salmonella bacteria.
- ◆ Improved NH₃ removal.
- ◆ Decreased chemical costs for BOD removal.
- ◆ Reduction in aeration requirements.

General Discussion

Wastewater treatment systems receiving significant concentrations of nonionic surfactants, phenols and emulsifiers have experienced problems in obtaining efficient biological oxidation of their wastewaters.

Typical problems include : heavy foaming, low surface tension and phenol toxicity among others.

The foaming problems is not only offensive because of the large quantities of foam present but it also strips the system of biomass. The biomass, which must remain in the system for biological activity to occur is literally carried up onto the banks by the foam.

The low surface tension created by the presence of detergents makes it difficult for active transport to occur across the cell wall thus hindering cell metabolism.

Low surface tension makes it more difficult to maintain the proper dissolved oxygen level in the system. A low surface tension retards the transfer of oxygen to the water hence aeration costs are excessive.

Until recently, nonionic surfactants were not considered. Easily biodegradable and were dependent on antifoams as a means of foam control. Sybron/Biochemical has developed a mixed culture including a mutant bacteria, **NC-BACT 1004** which is capable of degrading nonionic surfactants and controlling foam.

Typical NC-BACT 1004 Characteristics

Dry Culture

Bacteria Count:	
Total count	5 billion/gram
Pseudocel Count	3.5 billion/gram
pH	Neutral
Appearance	Free flowing,brown colored powder
Odor	Yeast-like
Screen mesh size	95% through 10 mesh
Moisture content	15%
Bulk density	0.50 - 0.61gm/cm ³
	4.2 - 5.1 lb/gal
Standard packaging	10 Kg/Drum
Origin	U.S.A

Optimum Conditions for Use

Bacteria and enzymes in **NC-BACT 1004** perform within a pH range of 6.0 to 8.0 with the optimum near pH 7.0. Temperature affects the activity of the working solution and action increases with rising temperatures up to 120°F(49 °C). No activity can be expected below 40 °F. (5 °C).

Storage and Handling

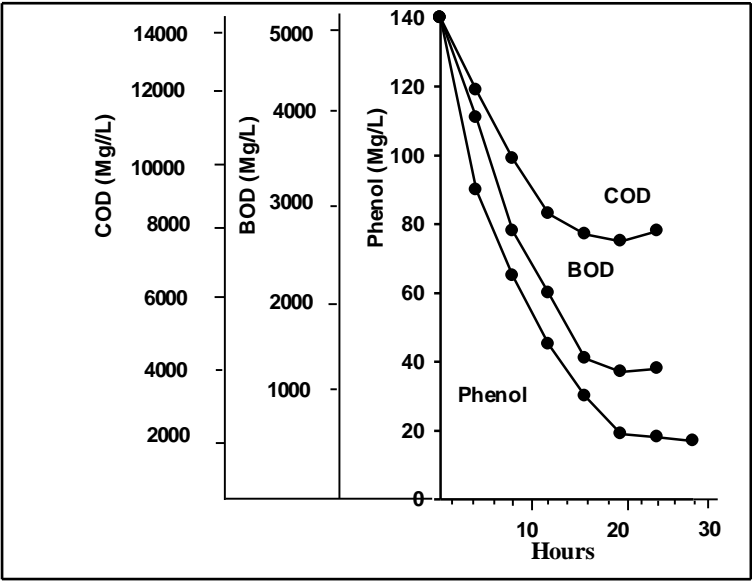
Storage..... Store in a cool dry place
NC-BACT 1004 reduces BOD, COD, Phenols, detergents and emulsifiers and control foaming effectively. This highly active culture makes it possible to meet effluent guidelines by improving biological oxidation. At the same time it will reduce aeration costs by making more efficient use of available dissolved oxygen.

Results of NC-BACT 1004 Treatment of Wool Washing Wastewater

Sample	COD (mg/l)	Nonionic Surfactants (mg/l)	Oil & Grease (mg/l)	Settle able Solids (mg/l)
Control	5697	440	577	11
Treated with NC-BACT 1003 + 1004	1365	110	11	50
% Reduction	76%	75%	98%	

Wastewater after treatment : (a) no floating materials, (b) color - clear brown, like ice tea.

Use in Textile Chemical Wastewater



This graph shows the degradation of a textile chemical manufacturers wastewater by the **NC-BACT 1004** culture. The waste contained nonionic detergents, phenols and a variety of other organic compounds.

The system was run as a closed batch system for 24 hours to adapt the bacteria to the waste. At 24 hours the continuous inflow was begun.



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NCSB|Biochemical Product Data

NC-BACT 1008

WASTEWATER TREATMENT CHEMICAL

DESCRIPTION

NC-BACT 1008 is a specialized formulation of mutant bacteria designed to remove H₂S and degrade sulfur-containing organic compounds without generating H₂S. Sulfide problems are prevalent in palm oil mills, latex plants, SMR plants, anaerobic ponds, meat packing houses, tanneries, sulfite process paper mills and municipal plants accepting industrial wastewater.

NC-BACT 1008 FEATURES

- ◆ Removal of H₂ S, fats, oil and grease.
- ◆ Odorless degradation of sulfur containing organics.
- ◆ Builds biomass
- ◆ Improved Oxygen Transfer.
- ◆ Prevention of sulfuric acid corrosion
- ◆ Improved reduction of BOD and COD.
- ◆ Reduction of solvents and phenolics.
- ◆ Improved NH₃ removal.
- ◆ Decreased chemical costs.
- ◆ Reduction in aeration requirements.
- ◆ Rapid shock and kill recovery.

SULFUR COMPOUNDS AND PROBLEMS IN WASTES

Sulfur is found in abundance in materials, sediments, soil and water. It rarely limits microbial or plant growth despite its presence in all living organisms. The sulfur amino acids are essential components of cell proteins. Cysteine, cystine and methionate are sulfur amino acids. The ratio of carbon to sulfur in microbial cells is approximately 100:1. Various forms of sulfur such as H₂ S and mercaptans form strong, undesirable and often hazardous gases. Biochemical's sulfur-digesting bacteria culture, **NC-BACT 1008** is a natural solution to the odor problems resulting from H₂ S and the other sulfur-containing compounds mentioned above.

ODOR PROBLEMS WITH SULFUR WASTES

There are common, naturally-occurring sulfur metabolizing bacteria which cause the development of sulfide odors. **Desulfovibrio** species are mixotrophic organisms which under anoxic conditions reduce sulfates and other sulfur compounds to H₂ S. If this organism is dominant in a system, a strong smell of H₂ S may be evident. Other sulfur metabolizing organisms such as **Thiobacillus thiooxidans** convert elemental sulfur or sulfides to sulfuric acid. There they generate acidic conditions and continue to grow and

TYPICAL NC-BACT 1008 CHARACTERISTICS

DRY CULTURE

Bacteria Count	5 billion/gram
pH	6.0 - 8.5
Appearance	Free flowing, brown colored powder
Odor	Yeast-like
Screen mesh size	95% through 10 mesh
Moisture content	15%
Bulk density	0.50 - 0.61 gm/cm ³ 4.2 - 5.1 lb/gal
Standard packaging	10 Kg/Drum
Origin	U.S.A

OPTIMUM CONDITIONS FOR USE

Bacteria and enzymes in **NC-BACT 1008** perform within a pH range of 6.0 to 8.5 with the optimum near pH 7.0. Temperature affects the activity of the working solution and action increases with rising temperatures up to 110 °F(43 °C). No activity can be expected below 40 °F.(5 °C).

STORAGE AND HANDLING

Storage	Store in a cool dry place
Handling	Avoid excessive inhalation. Wash hands thoroughly with warm soapy water.

produce acid at pH as low as pH 2.0. Such acidic conditions cause extensive damage in sewage lines. By fortifying the wastewater with organisms that convert sulfur and sulfates under low oxygen conditions, the odor-producing sulfides are effectively removed from waste. Less H₂ S gas accumulates in pipes to feed the acid accumulating bacteria on the upper surface of the pipes, thus, reducing the problems of corrosion.

SULFUR CONVERSION IN WASTES

Sulfur transformations can be divided into four groups (Fig 1)

- 1. Mineralization of organic forms
- 2. Assimilation of inorganic sulfur compounds.
- 3. Oxidation of reduced inorganic sulfur compounds.
- 4. Reduction of oxidized inorganic sulfur compounds.

Mineralization : Organic forms of sulfur are mineralized by microbial degradation. Human excreta contains about 1% organic sulfur, mainly in the bacterial cells. Release of inorganic sulfur is quite nonspecific and is dependent on the micro flora utilizing the carbon substrate. Sulfur must be present in either the carbon substrate or the surrounding environment for microbial growth. In practice there is usually plentiful supply of sulfur. Mineralization is usually limited by deficiencies in available carbon, nitrogen or phosphorous.

The most abundant inorganic forms of sulfur produced by mineralization include hydrogen sulfide, elemental sulfur, thiosulfate and sulfate. Other inorganic sulfur compounds are produced in small quantities.

Assimilation : Inorganic sulfur is assimilated by micro-organisms in many different forms. All micro-organisms, including algae, can utilize inorganic sulfur. Aerobes use hydrogen sulfide or sulfur amino acids as their sulfur source. Anaerobes utilize the more oxidized forms. The abundant supply of inorganic sulfur in soil and water allows organisms the choice of absorbing different forms of the element.

Oxidation reactions: The oxidation of reduced forms of sulfur is mediated by specific sulfur bacteria. Some of these bacteria are heterotrophic, while others are chemoautotrophic using reduced sulfur compounds as their sole energy source. Two groups of sulfur-oxidizing bacteria are recognized:

1. Thiobacillus and (2) filamentous bacteria.
The Thiobacilli are either obligately or facultatively autotrophic bacteria. They are short Gram-negative nonspore-forming rods. Many species are differentiated on the basis of the sulfur compound they use as an energy source. The best known sulfur bacterium is Thiobacillus thiooxidans. It is a highly aerobic strict autotroph and converts elemental sulfur to sulfuric acid. It has the ability to grow and metabolize in highly acidic conditions. It grows well at pH 2. The Thiobacilli are active in unpolluted waters that are low in organic matter. Under these conditions autotrophic microorganisms are abundant.

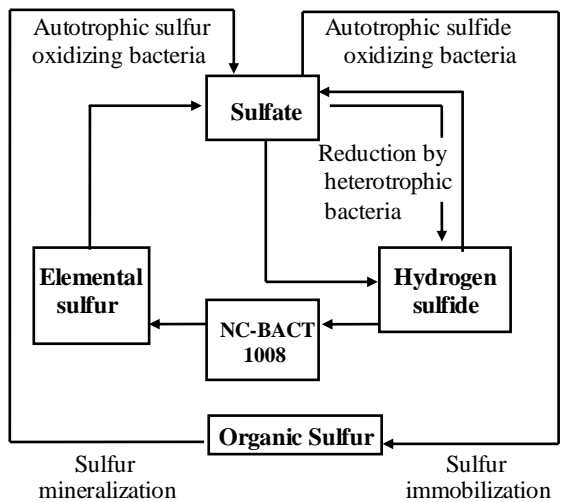
DOSAGE LEVEL

Dosage levels vary widely with each application based on an evaluation of conditions. More precise recommendation may be made after laboratory of field samples. Wastewater testing is available at our Plant and Research Center upon request.

Reduction reactions : In anaerobic sediments, waterlogged soils or in waters that have become oxygen-deficient because of pollution, oxidized sulfur compounds are reduced to hydrogen sulfide. This process is highly specific. It is mediated by Desulfovibrio, an anaerobic Gram negative nonspore-forming rod. These bacteria grow heterotrophically on many different organic substrates. They can use sulfate, thiosulfate or elemental sulfur as electron acceptors. The production of hydrogen sulfide by Desulfovibrio is also associated with iron reduction and the corrosion of iron pipes.

The Sulfur Cycle

Fig 1: Four important microbial transformations occur; mineralization of organic sulfur compounds, assimilation of inorganic sulfur, oxidation of reduced inorganic sulfur compounds and reduction of oxidized sulfur compounds.



NC-BACT 1008 contains several strains of viable sulfur-metabolizing bacteria capable of odor reduction. These strains convert sulfides present to sulfates.

Specific applications would be in tanneries, rendering plants, sulfite process paper ,mills, sulfur chemical manufacturing industries, breweries and rubber vulcanizing.

NC-BACT 1008 is used to maintain an adequate population of these bacteria for the removal of sulfur compounds without causing acidic conditions or foul odors.



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NC-BACT 10348

NCSB | Biochemical Product Data

WASTEWATER TREATMENT CHEMICAL

DESCRIPTION

NC-BACT 10348 is a mixture of highly bioactive cultures selected for their ability to liquefy and digest complex proteins cellulose, and starch. **NC-BACT 10348** is the most economical degrader, which has 4 synergistic action with all other NC-BACT 1000 series bacteria.

NC-BACT 10348 FEATURES

- ◆ Removal of fat, oil and grease.
- ◆ Improved oxygen transfer.
- ◆ Improved efficiency of BOD and COD reduction.
- ◆ Reduction of coliform count.
- ◆ Elimination of Salmonella bacteria.
- ◆ Improved NH₃ removal.
- ◆ Decreased chemical costs for BOD removal.
- ◆ Reduction in aeration requirements.

Typical NC-BACT 10348 characteristics

**Biological / Biochemical
Bacteria Count**

Minimum aerobic 2 billion/gram
Minimum anaerobic 1 billion/gram
pH 6.5 - 7.5

Physical

Appearance Free flowing, tan colored powder
Odor Yeast-like
Screen mesh size 95% through 10 mesh
Bulk density 0.50 - 0.61gm/cm³

Optimum Conditions For Use

Bacteria and enzymes in **NC-BACT 10348** perform within a pH range of 5.5 to 8.5 with the optimum near pH 7.0. Temperature affects the activity of the working solution and action increases with rising temperatures up to 120 °F (49 °C). No activity can be expected below 40 °F (5 °C).

Storage And Handling

Storage Store in a cool dry place
Handling Avoid excessive inhalation. Wash hands thoroughly with warm soapy water after handling
Packing 10 Kg/Drum
Origin U.S.A

Standardized to contain significantly high levels of protein splitting enzyme, expressed as PV units against casein, and starch-splitting enzyme expressed as DV units against starch. High amylase containing cultures are active primarily on starches, while **NC-BACT 10348** cultures have high activity against complex proteins as well as starches found in sewage and are therefore more effective in removing BOD.

CLEANING CHEMICAL

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CLEANING CHEMICAL

NO	PRODUCT	PRODUCT DESCRIPTION	PACKING
1	MP Cleaner	A dark blue concentrated all-purpose liquid cleaner for floors, walls and general equipment.	25 Ltr/Drum 10Ltr/Drum
2	Hand Care Cleaner	A green liquid hand soap that has excellent detergent with pleasant fragrance, its rinses freely and mild on hands.	10 Ltr/Drum 5 Ltr/Drum
3	Glass Cleaner	A light blue liquid for cleaning windows, mirror and other glass surfaces, leaving a fum-free, non-streaking surface.	25 Ltr/Drum 10 Ltr/Drum
4	Acco Clean	Liquid alkaline product for machine ware-washing of chinaware, glassware and silverware.	25 Ltr/Drum
5	Acco Dry	A highly effective rinse additive specially formulated to make your glasses, china, silvers and plastic ware dry sparkling clean.	25 Ltr/Drum
6	Floor-Cleaner	A purplish liquid alkaline cleaner contains solvent - like additives and water soluble organic compounds for - fast removal of oil and grease soils on floors.	25 Ltr/Drum 10 Ltr/Drum
7	H-Duty Oven & Grill	A fast acting, heavy duty liquid cleaner for removal of oils, grease and carbonizes deposits from grills, oven & other associated equipment (not suitable for aluminium materials)	25 Ltr/Drum 10 Ltr/Drum
8	Soak It	A white granular detergent for removal of tannin or coffee stains on crockery & melamine ware.	3 Kg/Drum
9	Gel Pine	Amber gel pine oil disinfectant, clean and deodorizes all types of floor, garbage bins and kitchen drains.	20 Kg/Drum
10	D-Wash	A yellow concentrated dishwashing liquid than can also be used as general – purpose cleaners.	25 Ltr/Drum 10 Ltr/Drum
11	Brightkleen	A heavy-duty synthetic detergent formulated for all water conditions that contain optical brightener and produces sparkling whites in all classifications.	20 Kg/Drum
12	T-Bowl Cleaner	Heavy-duty liquid toilet bowl cleaner, cleans deodorizes, and disinfects toilet bowl and urinals in one step operation.	25 Ltr/Drum 10 Ltr/Drum

13	Tile Cleaner	Heavy-duty liquid toilet bowl cleaner, cleans deodorizes, and disinfects toilet bowl and urinals in one step operation.	25 Ltr/Drum 10 Ltr/Drum
14	Bacterial Cleaner	A light green liquid highly recommended as cleaner for food and dairy industries.	5 Ltr/Drum 10 Ltr/Drum
15	Bleach (Powder)	Organic dry bleach, which liberates chlorine only as needed, it is outstanding for stain removal for white items only.	20 Kg/Drum
16	Oxy-Bleach (Liquid)	Oxygen bleach especially well suited for bleaching white, resin – treated polyester-cotton and color fabrics.	25 Ltr/Drum 10 Ltr/Drum
17	Soft	A liquid fabric softener recommended to use to enhance and complement the refreshing fragrance, smooth and silky soft touch to fabrics.	25 Ltr/Drum 10 Ltr/Drum
18	Quant Sanitizer Cleaner (Liquid)	A liquid quaternary ammonium compound sanitizer to remove pathogenic bacterial and guard against mold & bacterial build-up.	25 Ltr/Drum 10 Ltr/Drum
19	C/Rinse Sanitizer (Powder)	A chlorinated powdered detergent sanitizer for killing unseen bacteria, yeast and molds.	15 Kg/Pail 3 Kg/Pail
20	Antichlo	For neutralizing excess chlorine after bleaching cycle.	20 Kg/Pail



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NCSB Speciality Chemical

SUPERKLEEN NC-25

CLEANING CHEMICAL

DESCRIPTION

SUPERKLEEN NC-25 cleaner that bridges the gap between conventional hard surface cleaners and strong solvent systems.

APPLICATION PROCEDURE

SUPERKLEEN NC-25 can be used for :-

◆ DEGREASING

Vehicle engines, chassis, machinery concrete floors, cookers, forklift trucks, oil rigs.

◆ GENERAL PURPOSE CLEANING

Walls, vinyl upholstery, hard surfaces, tiles, curtains on vehicles, hard gloss paint, paintwork on vehicles and greasy floors.

◆ ADDITIONAL CLEANING

Blood, animal and body fats, chrome, stainless steel, printing ink.

SUPERKLEEN NC-25 is used in many areas including :-

General Industry	-	Chemical, car, textile, construction trades.
Transportation	-	Lorries, cars, ships, boats, airport buildings and equipment, loco sheds, stations, engines and coaches.
Institutions	-	Schools, museums, libraries, offices, supermarkets and hospitals, temples, workshop and production floor.

PURPOSE	DILUTION
Heavy duty oil, grease, dirt	Use undiluted. Leave to work and wash off with water. Agitation may be required for very heavy deposits. Repeat if necessary. Dilute 15 – 25 : 1 if pressure cleaning.
Light duty oil, grease, dirt	Dilute 25 – 100 : 1
General Maintenance	Dilute 50 – 250 : 1
Very light duty or daily cleaning	Dilute 100 – 500 : 1

SUPERKLEEN NC-25 enables, cold cleaning, its efficiency is greatly enhanced by hot water or steam applications.

If **SUPERKLEEN NC-25** is used in areas where food is to be stored, as with all chemical cleaners, always rinse carefully with clean water.

SAFETY AND HANDLING

SUPERKLEEN NC-25 compatibility and strength on any surface to be cleaned. As **SUPERKLEEN NC-25** is alkaline, avoid contact with aluminum. Wear gloves and goggles whilst handling.

PACKING

SUPERKLEEN NC-25 is available in 25Kg/drum and 250Kg/drum.



NATURAL COUNTRY SDN. BHD. (309445-V) 天然環保有限公司

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NCSB Speciality Chemical

SUPERKLEEN NC-55 **CLEANING CHEMICAL**

DESCRIPTION

SUPERKLEEN NC-55 is a powerful all purpose cleaner and degreaser. It is designed for the removal of grease, oily deposits and heavy soils from all hard surfaces. It is especially useful for the cleaning of all type of floors, machining shops, machinery equipment, trucks and oil rigs.

BENEFITS

- ◆ Fast acting, even the toughest soils are quickly removed
- ◆ Economical to use
- ◆ Excellent cleaning even in sea water
- ◆ Penetrates even the toughest oily and grease deposits
- ◆ Non-flammable and biodegradable
- ◆ Safe to use on all steel, stainless steel, cast iron surfaces and glass
- ◆ Easy, through rinsing that leaves a non-slip surface

GENERAL SPECIFICATION

SUPERKLEEN NC-55 is a red alkaline liquid concentrate containing a blend of surfactants and builders.

APPLICATION PROCEDURE

◆ GENERAL FLOOR CLEANING

Dilute at 5 – 20g per litre of water, mop at ambient temperature

◆ KITCHEN HOOD CLEANING

Use as neat, wipe on wipe off

◆ OIL TANKERS AND TRUCKS CLEANING

Dilute at 5 – 20% with hot water.

Immerse the work in the prepared solution until deposits are removed or softened, than high-pressure rinse.

◆ OIL RIGS AND PLATFORM CLEANING

Dilute at 20 – 40 g/litre of water

◆ SAFETY AND HANDLING

This is an alkaline product. Avoid contact with skin or eyes. If splashes occur, flush off with plenty of water immediately. Wear goggles and protective clothing when handling. Remove soiled clothing. For further information, please refer to the Material Safety Data Sheet.

PACKING

SUPERKLEEN NC-55 is available in 25Kg/drum.

COOLING TOWER CHEMICALS

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CT 201

NCSB | Biochemical Product

COOLING TOWER CHEMICAL

DESCRIPTION

CT 201 is a specially formulated non-foaming broad spectrum biocide having and outstanding effectiveness against algac and gives good control of bacteria and slimes. It is compatible with other treatment chemicals. It is non-oxidising, non-volatile and stable over a wide pH range.

GENERAL SPECIFICATION

Appearance.....Mobile pale amber liquid
Density (25C).....1.12
pH (1% aqueous).....8
Activity.....50% in water

TREATMENT

Ideally, any contaminated system should be cleaned thoroughly to remove algae growths and bacterial slimes before treatment is started. An initial slug dose of 30 – 50 ml **CT 201** per cubic metre of water is advised. Thereafter, **CT 201** should be added in slug doses of 30 – 40 ml per cubic metre every 5 days or as needed according to the amount of bleed off and the severity of the contamination. It is advisable to make slug additions to the sump or tower basins.

HANDLING

Slug feeding is recommended.

Avoid contact with eyes or prolonged contact with skin. Do not take internally.

PACKING

CT 201 is packed in 25-liter drum.



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NCSB | Biochemical Product

CT 109

COOLING TOWER CHEMICAL

DESCRIPTION

CT 109 is designed for scale and corrosion inhibition in open recirculating systems. Its formulation is composed of dispersants, polymers and corrosion inhibitors which provides an extremely powerful corrosion and scale inhibiting effect.

CT 109 also disperses iron oxides and air bone particulate matter. It is a multiduty treatment with provides effective equipment protection with minimal environmental impact.

GENERAL SPECIFICATION

Appearance.....Amber liquid
Specific gravity.....1.1
Solubility.....Very soluble in water

TREATMENT AND DOSAGE REQUIREMENTS

CT 109 is normally dosed at between 20 and 40 ppm to the make-up water. The correct treatment level, however, will be specified by your Natural Country Sdn Bhd representative. Pre-treatment levels should be maintained at between 200 and 400 ppm for at least one week prior to maintenance dosages.

SAFETY

Do not take internally. Wash splashes with plenty of clean water.

PACKING

CT 109 is available in 25 liter and 100 liter containers.



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NCSB Speciality Chemical

NCT-55 COOLING TOWER CHEMICAL

DESCRIPTION

NCT-55 is an anti-microbial agent developed from the latest chemistry. It is specially formulated to provide a surface-active product that can clean and penetrate microbiologically-fouled surfaces. It is effective in controlling slime-forming bacteria and algae. **NCT-55** is a combination of surfactants with a water-soluble phase. The surfactants work in the product as an emulsifying agent in dissolving slime. The ease of handling and high potency of **NCT-55** makes it suitable for use in both closed and open recirculating cooling water systems.

NCT-55 has been effectively used to treat cooling water contaminated with oil, keeping the cooling towers clean and efficient.

NCT-55 anti-microbial activities are based on unique property and microbes would not be able to develop acquired immunity, therefore **NCT-55** can be used continuously without losing effectiveness.

ADVANTAGES

- ◆ Environmentally friendly biocide/antislime agent.
- ◆ Kills algae, bacteria and removes slimy deposits.
- ◆ Effective over a broad pH and temperature range.
- ◆ Compatible with other water treatment additives.
- ◆ Biodegradable.
- ◆ Components are FDA approved.
- ◆ No adapting effect.

GENERAL SPECIFICATION

Appearance	Milky white liquid
Odour	Pleasant aroma
Specific gravity	~ 1
Solubility	Soluble at application dosage
pH	7 – 8

TREATMENT

NCT-55 can be dosed directly or pre-diluted with water. A dosage of 20 – 60 ppm in the system will provide effective control of algae and bacteria. For system cleaning a dosage of 200 ppm is recommended, a soaking time of 2 hours should be adequate. For optimum control, daily dosing is always recommended, otherwise weekly shock treatment at higher dosages should be carried out.

HANDLING

Avoid contact with liquid and inhalation of vapour. Wash with plenty of water in case of eyes or skin contact.

STORAGE

The product is susceptible to frost and should also be protected from direct sunlight. Under proper storage, the product shelf life is at least 6 months. A slight formation of layers can occur after long term storage; after homogenising the product, can be used without any loss of effectiveness.

PACKING

NCT-55 is available in 25Kg packing.



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NCSB | Biochemical Product

CW 514 CHILLED WATER CHEMICAL

DESCRIPTION

CW 514 is a powerful, rapid acting, non-oxidising biocide based on isothiazolone derivatives. It is formulated for the control of growth of bacteria and algae in open and recirculating cooling water systems. **CW 514** penetrates the cell wall of microorganism, reacting with proteins within the cytoplasm. It disrupts cell respiratory biochemical reactions to provide rapid microbial effect.

ADVANTAGES

Broad spectrum activity and rapid inhibition of growth of organism.
Biodegradable and low toxicity to humans and animals.
Effective over a broad pH and temperature range.
Non-foaming.
Compatible with most water treatment additives.

GENERAL SPECIFICATION

Appearance.....Bluish liquid
Odour.....Slightly pungent
S.G@25°C.....~1.03
Solubility.....Complete
pH.....3 - 4

TREATMENT

CW 514 can be dosed either by intermittent or by continuous feeding, providing effective control at dosages of 100 – 200ppm into the cooling systems. However, occasional higher dosages or shock dosages will be necessary and recommendations will be provided by your Natural Country Sdn Bhd representative.

HANDLING

Concentrate **CW514** is corrosive to many common metals. Avoid contact with liquid and inhalation of vapour. Wash with plenty of water in case of eyes or skin contact.

PACKING

CW 514 is available in 25Kg packing.



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NCSB | Biochemical Product

CW 601
CHILLED WATER CHEMICAL

DESCRIPTION

CW 601 is a liquid corrosion and scale inhibitor based on sodium nitrite and sodium borate for closed cooling systems and chilled water circuits. It does not contain chromates.

CW 601 is effective even where oxygen or air may be entrained in the circulating water. It will protect most metals including copper but excluding aluminium.

GENERAL SPECIFICATION

Appearance.....Reddish liquid
Specific gravity.....1.04
pH.....11 – 12
Non-flammable

TREATMENT AND DOSAGE REQUIREMENTS

CW 601 is normally dosed by means of a feeder installed on a by-pass to the circulating system or it can be introduced to the header tank directly.

Initial dose is normally 3 liters per 100 liters of cooling water. Subsequently, **CW 601** is dosed to maintain 1000 – 1500 ppm of sodium nitrite in the system.

Overdosing with **CW 601** is not harmful to the system.

SAFETY

CW 601 is alkaline. Wash splashes on skin or eyes with copious amount of clean water. If ingested, give plenty of water and seek medical attention.

PACKING

CW 601 is available in 25Kg container.

