

# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

Date : 10/06/2015

## PRODUCT INFORMATION SHEET

### 3C CHEMICALS - SUPERWHITE

#### Description :

3C CHEMICALS - SUPERWHITE is a highly concentrated liquid bleach, specially formulated for textiles and garments.

#### Application :

3C CHEMICALS - SUPERWHITE is specially manufactured for bleaching of textiles and garments. It could also be used as a germicide and disinfectant in hotels, homes and hospitals.

#### Specifications :

Chlorine (CL2)	: 55 GPL
Free Alkali	: 10 GPL
pH value	: 10 - 11
Stability	: stable below 21 deg C
Turbidity	: Nil
Fe	: Max 0.1 PPM
CU	: Nil
NI	: Nil
Biodegradability	: Completely biodegradable
Flash point	: None
Specific gravity	: 1.10 - 1.11
Free acid	: None



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P.O. Box : 6246, Dubai, United Arab Emirates, Tel : (9714) 3472082, Fax: (9714) 3472042  
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## Caution / Safety :

Wear rubber gloves and eye protection when handling undiluted 3C CHEMICALS - SUPERWHITE. In case of eye or skin contact, rinse with plenty of water.

## Storage :

Product is unstable above 21 deg C. Store in a cool, dark, ventilated place, away from direct sunlight and heat.

## Shelf Life :

12 months, if stored as per the storage conditions specified above.

## Packing :

4 x 5 ltr cartons.

NOTE : Use this information sheet only as a guide for the use of this product. The information provided is in accordance with the latest technological developments. We do not accept responsibility for any work carried out with this product as we have no control over the method of application used or the conditions at which the work was done.

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Date : 10/06/2015

## MATERIAL SAFETY DATA SHEET

### SUPERWHITE

#### 1. Product & Company Identification

Substance identification : Liquid Bleach  
Trade Name : 3C CHEMICALS - SUPERWHITE  
Generic description : Liquid bleach containing Sodium Hypochlorite  
CAS number : Not applicable (Intentional mixture)  
Main Components CAS# : 7681 – 52 – 9, 1310-73-2

Company Identification : Fayfa Chemicals Factory LLC  
P.O. Box 6246, Dubai – U.A.E.  
Contact No. : Tel : 04-3472082, Fax : 04-3472042  
Email : [fayfa@emirates.net.ae](mailto:fayfa@emirates.net.ae)



#### 2. Composition/Information on Ingredients

Hazardous component(s) : Sodium Hypochlorite

#### 3. Hazardous identification

Main hazards : Hazardous – Corrosive

#### 4. Health hazard data

Inhalation : Inhalation of vapours will cause irritation  
Skin Contact : Prolonged contact will cause irritation and burns  
Eye contact : May cause irritation  
Ingestion : May cause nausea and burns.

#### 5. First Aid measures

Inhalation : Rinse with plenty of water and seek medical attention immediately  
Skin contact : Flush with water and seek medical attention immediately  
Eye contact : Flush with water. Seek medical attention if irritation persists  
Ingestion : Dilute ingested material with plenty of water. Do not induce vomiting. Seek medical attention immediately

#### 6. Fire Fighting measures

Auto ignition temperature : Not determined  
Flammability : Non flammable  
Suitable extinguishing media : Use carbon dioxide or suitable Dry chemical

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 7. Accidental Release measures

Spillage : Absorb large spillages onto sand or any absorbent material and dispose off in accordance with local authority regulations. Small spillages may be rinsed away

## 8. Handling and Storage

Handling : See section 9  
Storage : Storage at ambient temperature in well ventilated covered areas. Keep away from heat and direct sunlight.

## 9. Personal Protection

Respiratory protection : Avoid prolonged inhalation, use proper breathing in case of prolonged contact  
Skin protection : Use plastic or rubber apron and appropriate gloves and rubber boots while handling. Clothing splashed with material must be removed instantly. Also cover the head with appropriate protection  
Eye protection : It is good practice to use eye protection, when handling any bulk chemical

## 10. Physical and Chemical Properties

Physical state at 20 deg C : Pale yellow clear liquid  
Solubility in water (% weight) : Soluble in all proportions  
pH value @ 25 deg C :  $12.0 \pm 0.5$   
Density (g/cc)@ 25 deg C :  $1.1 \pm 0.01$   
Viscosity @ 25 deg C  
(UL adaptor, S00, 100 rpm Brookfield viscometer) :  $2.0 \text{ cps} \pm 0.5 \text{ cps}$



## 11. Stability and Reactivity

Decomposition : When water completely evaporates, the residue can burn producing carbon dioxide and traces of carbon monoxide  
Stability and reactivity : Stable at ambient temperature  
Incompatible materials : Avoid contact with all chemicals

## 12. Toxicological Information

Skin contact : On prolonged & or repeated contact may cause irritation  
Eye contact : Will cause irritation  
Ingestion : May cause nausea and burns.

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 13. Disposal considerations

Disposal : See section 7

## 14. Transportation information

UN Number : 1823  
ADR/RID classification code : Not classified as dangerous  
IMCO class : 8, Corrosive  
Packaging group : N/A

## 15. Other information

The information is given based on our present knowledge and is intended as a general guideline to this production use. It does not constitute the users own assessment of workplace risk as required by other Health and Safety legislation.



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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Date : 10/06/2015

## PRODUCT INFORMATION SHEET

### 3C CHEMICALS - SOFTTOUCH

#### Pearlised liquid hand soap

#### General Characteristic :

3C CHEMICALS - SOFTTOUCH is a luxury liquid hand soap in a highly concentrated form for hand washing applications. The product colour is coded pink and has a pleasing fragrance.

#### Features :

3C CHEMICALS - SOFTTOUCH goes into solution instantly and completely and its high concentration is designed to quickly penetrate contamination and rapidly emulsify and disperse the residues. It is effective in both soft and hard water, not or cold.

3C CHEMICALS - SOFTTOUCH produces abundant foam, long lasting effective cleaning action.

Moreover, 3C CHEMICALS - SOFTTOUCH is pearlised to give a pleasant visual effect.

#### Specifications :

Appearance	: Pearlised , pink, perfumed, viscous liquid
Sp. gr. at 25 ° C	: $1.03 \pm 0.01$
Viscosity at 27° C	: 6000 cps. $\pm$ 1000 cps.
pH	: $8.0 \pm 0.5$



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## Area of applications :

3C CHEMICALS - SOFTTOUCH has numerous hand washing and hand wiping applications in hospitals, institutions, homes, hotels, cafeterias, restaurants, schools etc.

## Method of Application and Dilution :

3C CHEMICALS - SOFTTOUCH is generally used neat but the highly concentrated form enables the user to dispense only a few drops of detergent for each cleaning applications.

Work a little 3C CHEMICALS - SOFTTOUCH into the hands. Rinse off and dry to leave hands cleaned and refreshed.

3C CHEMICALS - SOFTTOUCH is generally used in the packed form in case of small packs or filled into liquid dispensers in case of large packing.

## Safety Precautions :

KEEP OUT OF REACH OF CHILDREN

3C CHEMICALS - SOFTTOUCH being a hand washing soap is safe on skin.

In case of eye contact, flush with water.

In case of ingestion, give plenty of water and seek medical attention.



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## Packing :

3C CHEMICALS - SOFTTOUCH is available in 4 x 5 ltr. cartons.

## NOTE :

Use this information sheet only as a guide for the use of this product. The information provided is in accordance with the latest technical developments. We do not accept responsibility for any work carried out with this product as we have no control over the method of application used or the conditions at which the work was done.

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Date : 10/06/2015

## MATERIAL SAFETY DATA SHEET

### SOFTTOUCH

#### 1. Product & Company Identification

Substance identification : Hand Washing Liquid  
Trade Name : 3C CHEMICALS - SOFTTOUCH  
Generic description : Mixture of lauryl ether sulfate and coconut diethanol amide  
CAS number : Not applicable (Intentional mixture)  
Main Components CAS# : 9004-82-4, 61791-31-9  
  
Company Identification : Fayfa Chemicals Factory LLC  
P.O. Box 6246, Dubai – U.A.E.  
Contact No. : Tel : 04-3472082, Fax : 04-3472042  
Email : [fayfa@emirates.net.ae](mailto:fayfa@emirates.net.ae)

#### 2. Composition/Information on Ingredients

Hazardous component(s) : Non hazardous

#### 3. Hazardous identification

Main hazards : Not classified as hazardous

#### 4. Health hazard data

Inhalation : Not considered a hazard under normal condition.  
Skin Contact : Prolonged contact may cause irritation in some cases  
Eye contact : Will cause irritation  
Ingestion : May cause nausea

#### 5. First Aid measures

Inhalation : No emergency care anticipated  
Skin contact : Wash with soap and water  
Eye contact : Flush with water for at least 15 minutes  
Ingestion : Consume plenty of water.  
Seek medical attention if necessary



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 6. Fire Fighting measures

Flash Point	:	Not determined
Flammability	:	Non flammable
Suitable extinguishing media	:	Dry chemical, foam or water spray

## 7. Accidental Release measures

Spillage	:	Absorb large spillages onto sand or any absorbent material and dispose off in accordance with local authority regulations. Small spillages may be rinsed away
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## 8. Handling and Storage

Handling	:	See section 9
Storage	:	Storage at ambient temperature

## 9. Personal Protection

Respiratory protection	:	Not required in normal use.
Skin protection	:	Not recommended
Eye protection	:	Not recommended

## 10. Physical and Chemical Properties

Physical state at 20 deg C	:	Pink, pearlized perfumed viscous liquid
Solubility in water (% weight)	:	Soluble in all proportions
pH @ 25 deg C	:	8.0 $\pm$ 0.5
Density (g/cc)@ 20 deg C	:	1.03 $\pm$ 0.01
Viscosity @ 27 deg C (# 3, 5 rpm Brookfield viscometer)	:	6000 cps $\pm$ 1000 cps



## 11. Stability and Reactivity

Decomposition	:	When water completely evaporates, the residue can burn Producing carbon dioxide and traces of carbon monoxide
Stability and reactivity	:	Stable at ambient temperature
Incompatible materials	:	Bleaching agents

## 12. Toxicological Information

Skin contact	:	On prolonged & or repeated contact may cause irritation
Eye contact	:	Will cause irritation
Ingestion	:	May cause nausea.



# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 13. Disposal considerations

Disposal : See section 7

## 14. Transportation information

UN Number : N/A  
Road/Rail : N/A  
IMCO class : N/A  
Packaging group : N/A

## 15. Other information

The information is given based on our present knowledge and is intended as a general guideline to this production use. It does not constitute the users own assessment of workplace risk as required by other Health and Safety legislation.



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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Date : 10/06/2015

## PRODUCT INFORMATION SHEET

### 3C CHEMICALS - VITRAX

#### Ammoniated Glass Cleaner

#### General Characteristics :

3C CHEMICALS - VITRAX is a clear light blue liquid with characteristic ammonia smell. It is formulated to be a very economical cleaner for glass and chrome surfaces.

#### Features :

The specially formulated blend of 3C CHEMICALS - VITRAX consists of surfactants, alcohols and ammonia. It is a very economical cleaner for glass and chrome surfaces. Its quick cleaning action lifts off dirt, grease and grime easily leaving a streak free shining surface.

#### Specifications :

Appearance : Clear light blue liquid with ammonia odour

Sp. Gr. At 20 deg C :  $1.0 \pm 0.02$

Viscosity at 25 deg C:  $1.5 \text{ cps} \pm 0.05 \text{ cps}$

(UL adaptor, 500, 100 rpm

Brookfield viscometer)

pH :  $11 \pm 0.5$



#### Area of application :

3C CHEMICALS - VITRAX is suitable for use in spray on/wipe off cleaning of glass, windows, wind screens, mirrors and other glass surfaces chrome work and stainless steel.

3C CHEMICALS - VITRAX is an ideal product for use in hotels, clubs, cafeterias, restaurants, food processing areas, hospitals, homes, workshops, service stations and the industry.

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## Method of application :

For normal application dilute 3C CHEMICALS - VITRAX 1:2 upto 1:8 with clean water. Spray the diluted solution onto the surface with any conventional sprayer and wipe off dry with a lint free cloth or tissue paper. Best results are obtained if the surface is dried thoroughly.

For wind screen washer reservoirs add one part 3C CHEMICALS - VITRAX to 6 parts clean water.

In case of heavy soils, use 3C CHEMICALS - VITRAX at 1 : 1 dilution.

## Safety precautions :

KEEP OUT OF REACH OF CHILDREN

3C CHEMICALS - VITRAX is generally safe. However, excessive skin contact is not recommended.

In case of eye contact, wash with copious amount of water and seek medical attention if required.

In case of ingestion give plenty of water and seek medical attention.

Do not reuse empty containers.

## Packing :

3C CHEMICALS - VITRAX is available in 5 ltr containers packed four in a carton

Note : Use this information sheet only as a guide for the use of this product. The information provided is in accordance with the latest technological developments. We do not accept responsibility for any work carried out with this product as we have no control over the method of application used or the conditions at which the work was done.

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## MATERIAL SAFETY DATA SHEET

### VITRAX

#### 1. Product & Company Identification

Substance identification : Ammoniated Glass Cleaner  
Trade Name : 3C CHEMICALS - VITRAX  
Generic description : Mild non-ionic liquid detergent  
CAS number : Not applicable (Intentional mixture)  
Main Components CAS# : 9016 – 45 – 9, 67-63-0  
  
Company Identification : Fayfa Chemicals Factory LLC  
P.O. Box 6246, Dubai – U.A.E.  
Contact No. : Tel : 04-3472082, Fax : 04-3472042  
Email : [fayfa@emirates.net.ae](mailto:fayfa@emirates.net.ae)



#### 2. Composition/Information on Ingredients

Hazardous component(s) : Non hazardous

#### 3. Hazardous identification

Main hazards : Not classified as hazardous

#### 4. Health hazard data

Inhalation : No adverse effects predicted  
Skin Contact : No adverse effects predicted  
Eye contact : May cause irritation if not flushed with water immediately  
Ingestion : May cause irritation, nausea and vomiting

#### 5. First Aid measures

Inhalation : No adverse effects are predicted  
Skin contact : Rinse with water  
Eye contact : Flush with water. Seek medical attention if irritation persists  
Ingestion : Dilute ingested material with plenty of water. Do not induce vomiting. Seek medical attention immediately

#### 6. Fire Fighting measures

Auto ignition temperature : Not determined  
Flammability : Non flammable  
Suitable extinguishing media : Dry chemical, foam or water spray

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## 7. Accidental Release measures

Spillage : Absorb large spillages onto sand or any absorbent material and dispose off in accordance with local authority regulations. Small spillages may be rinsed away

## 8. Handling and Storage

Handling : See section 9  
Storage : Storage at ambient temperature in well ventilated covered areas. Keep away from heat and direct sunlight.

## 9. Personal Protection

Respiratory protection : Not required in normal use. However adequate ventilation is advisable  
Skin protection : Protective rubber gloves are recommended while handling  
Eye protection : It is good practice to use eye protection, when handling any bulk chemical

## 10. Physical and Chemical Properties

Physical state at 20 deg C : Clear light blue liquid with ammonia odour  
Solubility in water (% weight) : Soluble in all proportions  
pH value @ 25 deg C :  $11.0 \pm 0.5$   
Density (g/cc)@ 25 deg C :  $1.0 \pm 0.02$   
Viscosity @ 25 deg C  
(UL adaptor, S00, 100 rpm  
Brookfield viscometer) :  $1.5 \text{ cps} \pm 0.05 \text{ cps}$

## 11. Stability and Reactivity

Decomposition : None when stored and used correctly  
Stability and reactivity : Stable at ambient temperature  
Incompatible materials : Not known

## 12. Toxicological Information

Skin contact : On prolonged & or repeated contact may cause irritation  
Eye contact : Will cause irritation  
Ingestion : May cause nausea.



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# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

## 13. Disposal considerations

Disposal : See section 7

## 14. Transportation information

UN Number : N/A  
Road/Rail : N/A  
IMCO class : N/A  
Packaging group : N/A

## 15. Other information

The information is given based on our present knowledge and is intended as a general guideline to this production use. It does not constitute the users own assessment of workplace risk as required by other Health and Safety legislation.



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**IDEAL MANUFACTURING LTD.**

## **ECOWASH PLUS (Perfumed)**

<b>PRODUCT CODE:</b>	<b>106</b>
<b>DESCRIPTION:</b>	A pleasantly fragranced, off-white, non-dusting, free-flowing powder.
<b>REACTION:</b>	Alkaline.
<b>COMPOSITION:</b>	A built detergent powder containing a comprehensive range of non-ionic and anionic surfactants, soil suspending and anti-redeposition agents, buffered alkalis, builders and optical brighteners.
<b>APPLICATIONS:</b>	<p>A built detergent designed for use in solution feed operations in tunnel washing machines and</p> <p>It is suitable for processing polyester/cotton mix and cotton fabrics and for light or heavy soiling whether mineral or organic.</p> <p>In situations where heavy mineral soiling is processed, a mineral oil emulsifier is recommended as an adjunct.</p>
<b>USAGE LEVELS:</b>	<p><b>Conventional Washer Extractor Machines:-</b></p> <p>Light soiling 0.5kg/50 kg dry weight</p> <p>Medium soiling 1.0kg/50 kg dry weight</p> <p>Heavy soiling 1.5kg-2kg/50kg dry weight</p>





**Tunnel Washing Machines:-**

Light soiling 0.30-0.40 kg/50 kg dry weight

Medium soiling 0.60-0.80 kg/50 kg dry weight

Heavy soiling 1.0kg-1.5kg/50 kg dry weight

Processing is normally very simple and two wash

Processes are applied only to very heavily soiled articles.

**ADVANTAGES:**

1. One product usage throughout plant for all.
2. Simplified stock solution make-up.
3. Simplified ordering and stock control.

*(Please see separate Safety Data Sheet)*







## SAFETY DATA SHEET ECOWASH PLUS Perfumed

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name ECOWASH PLUS Perfumed

Product number 106MO

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses General Purpose Laundry Powder

#### 1.3. Details of the supplier of the safety data sheet

Supplier IDEAL MANUFACTURING LTD.  
ATLAS HOUSE, BURTON ROAD  
FINEDON,  
WELLINGBOROUGH  
NORTHANTS.  
NN9 5HX  
01933 681616  
24hr Emergency number 0870 19067777  
01933 681042  
hello@idealmanufacturing.com

#### 1.4. Emergency telephone number

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xi;R41.

#### 2.2. Label elements

##### Pictogram



Signal word Warning

hazard statements H315 Causes skin irritation.  
H319 Causes serious eye irritation.





## ECOWASH PLUS Perfumed

### Precautionary statements

P264 Wash contaminated skin thoroughly after handling.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P321 Specific treatment (see medical advice on this label).  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.

### 2.3. Other hazards

#### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

<b>SODIUM CARBONATE</b>		<b>10-30%</b>
CAS number: 497-19-8                      EC number: 207-838-8		
<b>Classification</b> Eye Irrit. 2 - H319	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xi;R36	
<b>LONGCHAIN ALCOHOL ETHOXYLATE</b>		<b>1-5%</b>
CAS number: —		
<b>Classification</b> Not Classified	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xn;R22. Xi;R41.	
<b>SODIUM SILICATE</b>		<b>1-5%</b>
CAS number: 1344-09-8                      EC number: 215-687-4		
<b>Classification</b> Not Classified	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xi;R37/38,R41.	
<b>DI SODIUM TRIOXOSILICATE</b>		<b>1-5%</b>
CAS number: 6834-92-0                      EC number: 229-912-9		
<b>Classification</b> Skin Corr. 1B - H314 STOT SE 3 - H335 STOT SE 3 - H335 Eye Dam. 1 - H318	<b>Classification (67/548/EEC or 1999/45/EC)</b> C;R34. Xi;R37.	
<b>CONCENTRATED FRAGRANCE</b>		<b>&lt;1%</b>
CAS number: —		
<b>Classification</b> Not Classified	<b>Classification (67/548/EEC or 1999/45/EC)</b> N;R51/53. R43.	





**ECOWASH PLUS Perfumed**

<b>Stilbene Disulphonic Acid derivative</b>	<b>&lt;1%</b>
CAS number: 16090-02-1	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Not Classified	-

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**Composition comments** All other components of this product are listed as non-hazardous

**SECTION 4: First aid measures****4.1. Description of first aid measures**

<b>Inhalation</b>	No specific recommendations. If in doubt, get medical attention promptly.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
<b>Skin contact</b>	It is important to remove the substance from the skin immediately. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing. Chemical burns must be treated by a physician.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Unlikely to occur
<b>Ingestion</b>	May cause discomfort if swallowed.
<b>Skin contact</b>	Prolonged contact may cause redness, irritation and dry skin.
<b>Eye contact</b>	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

**4.3. Indication of any immediate medical attention and special treatment needed**

<b>Notes for the doctor</b>	Treat symptomatically.
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**SECTION 5: Firefighting measures****5.1. Extinguishing media**

**Suitable extinguishing media** The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

<b>Hazardous combustion products</b>	Does not decompose when used and stored as recommended.
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**5.3. Advice for firefighters**

<b>Protective actions during firefighting</b>	No specific firefighting precautions known.
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**SECTION 6: Accidental release measures**



## ECOWASH PLUS Perfumed

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet.

### 6.2. Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Do not touch or walk into spilled material. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid generation and spreading of dust. Flush contaminated area with plenty of water.

### 6.4. Reference to other sections

#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

**Usage precautions** Avoid spilling. Avoid contact with skin and eyes. Persons with impaired lung function should not handle this product.. Avoid handling which leads to dust formation. Provide adequate ventilation.

##### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep only in the original container.

**Storage class** Chemical storage.

##### 7.3. Specific end use(s)

#### SECTION 8: Exposure Controls/personal protection

##### 8.1. Control parameters

##### Occupational exposure limits

##### SODIUM CARBONATE

Short-term exposure limit (15-minute): 4 mg/m<sup>3</sup>

**Ingredient comments** OES = Occupational Exposure Standard.

##### 8.2. Exposure controls

##### Protective equipment



**Appropriate engineering controls**

Provide adequate general and local exhaust ventilation. Use mechanical ventilation if there is a risk of handling causing formation of airborne dust.

**Eye/face protection**

The following protection should be worn: Chemical splash goggles or face shield.

**Hand protection**

Use protective gloves.

**Other skin and body protection**

Wear appropriate clothing to prevent any possibility of skin contact.

**Hygiene measures**

Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

**Respiratory protection**

No specific recommendations.



## ECOWASH PLUS Perfumed

### SECTION 9: Physical and Chemical Properties

#### 9.1. Information on basic physical and chemical properties

Appearance	White Powder
Odour	Pleasant, agreeable.

#### 9.2. Other information

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
------------	---

#### 10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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#### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None Known
------------------------------------	------------

#### 10.4. Conditions to avoid

Conditions to avoid	Avoid contact with the following materials: Strong mineral acids.
---------------------	---

#### 10.5. Incompatible materials

#### 10.6. Hazardous decomposition products

Hazardous decomposition products	None known.
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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Toxicological effects	No information available.
Inhalation	May cause respiratory system irritation.
Ingestion	May cause discomfort if swallowed.
Skin contact	May cause skin irritation/eczema. Powder may irritate skin.
Eye contact	Irritation of eyes and mucous membranes.

### SECTION 12: Ecological Information

Ecotoxicity	Not regarded as dangerous for the environment.
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#### 12.1. Toxicity

Toxicity	No information available
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#### 12.2. Persistence and degradability

Persistence and degradability	The product contains mainly inorganic substances which are not biodegradable. The other substances in the product are expected to be readily biodegradable.
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#### 12.3. Bioaccumulative potential

Bioaccumulative potential	Not expected to bioaccumulate
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#### 12.4. Mobility in soil





## ECOWASH PLUS Perfumed

**Mobility** The product is soluble in water.

### 12.5. Results of PBT and vPvB assessment

### 12.6. Other adverse effects

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

## SECTION 14: Transport information

**General** Not hazardous for road transport

### 14.1. UN number

**UN No. (ADR/RID)** 0

### 14.2. UN proper shipping name

### 14.3. Transport hazard class(es)

### Transport labels

### 14.4. Packing group

### 14.5. Environmental hazards

**Environmentally hazardous substance/marine pollutant**

No.

### 14.6. Special precautions for user

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**National regulations** Rivers (Prevention of Pollution) Act 1961.  
Control of Pollution (Special Waste) Regulations 1980 (as amended).  
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

**EU legislation** System of specific information relating to Dangerous Preparations. 2001/58/EC.

**Guidance** Workplace Exposure Limits EH40.  
Introduction to Local Exhaust Ventilation HS(G)37.  
CHIP for everyone HSG228.  
Approved Classification and Labelling Guide (Sixth edition) L131.

### 15.2. Chemical safety assessment

## SECTION 16: Other information

**General information** This information is given in good faith and is based upon current available data. The suitability of this product for any particular use is not suggested. The user must determine if the product is correct for any particular application. This document is not a specification. Conforms to 1907/2006/EC

**Key literature references and sources for data** Dangerous Properties of Industrial Materials Report, N.Sax et.al.

**Revision date** 14/09/2015





**ECOWASH PLUS Perfumed**

<b>Revision</b>	01
<b>SDS number</b>	106MO
<b>Risk phrases in full</b>	Not classified. R22 Harmful if swallowed. R34 Causes burns. R36 Irritating to eyes. R37 Irritating to respiratory system. R37/38 Irritating to respiratory system and skin. R41 Risk of serious damage to eyes. R43 May cause sensitisation by skin contact. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Hazard statements in full</b>	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation.





# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

Date : 10/06/2015

## PRODUCT INFORMATION SHEET

### 3C CHEMICALS - PRIMA

High active liquid dish washing detergent



#### General characteristics :

3C CHEMICALS - PRIMA is a highly concentrated, neutral liquid detergent, green in colour, with a fruity orange fragrance. The product is very active and when diluted as recommended, is suitable for all manual cleaning and dish washing, in household & industrial applications.

#### Features :

Even though 3C CHEMICALS - PRIMA is in a concentrated form, the coupling solvents incorporated in it helps it go into solutions instantly, penetrate contamination and rapidly emulsify and disperse the residues. It is effective in both soft and hard water, hot or cold. The high proportion of solvents present in 3C CHEMICALS - PRIMA, helps in quick and spot free rinsing.

#### Areas of applications :

3C CHEMICALS - PRIMA can be used effectively for any cleaning operation, where a neutral, perfumed detergent is desired for. However, it is specifically designed for dish washing applications in hotels, hospitals, institutions, canteens, cafeterias, homes etc.

#### Specifications :

Appearance	: Clear, green, viscous liquid with fruity orange perfume.
Sp. Gr. at 20 deg C	: 1.03 + 0.01
Viscosity at 27 deg C	: 1300 cps + 100 cps
pH	: 7.0 + 0.5

Contd..2

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## Method of application :

3C CHEMICALS - PRIMA can be used as a convenient dish washing liquid. Dilute solutions can be applied onto the surface and scrubbed with a sponge or synthetic abrasive and rinsed with water.

For general cleaning applications, optimum dilution can be 1:30 upto 1:100.

For oily and dusty surfaces, 1:3 dilution with efficient scrubbing and warm water will be adequate.

For hand washing, apply a small quantity of 3C CHEMICALS - PRIMA onto the hands and rinse off with water.

## Safety precautions :



KEEP OUT OF REACH OF CHILDREN

3C CHEMICALS - PRIMA is generally safe. However, if it is to be used over an extended period, it is advisable to wear gloves. For short term applications, the product is safe unless, the user's skin is sensitive.

In case of splashes into eyes, wash with copious amounts of water and obtain medical attention, if required.

In case of ingestion, give plenty of water and seek medical attention, if required.

Spillages if any, should be flushed thoroughly with water, as solutions of 3C CHEMICALS - PRIMA tend to be very slippery.

Customers are advised not to reuse empty containers and to destroy or dispose them promptly.

Contd..3

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Packing : 3C CHEMICALS - PRIMA is available in 12 x 1 ltr cartons.

NOTE : Use this information sheet only as a guide for the use of this product. The information provided is in accordance with the latest technical developments. We do not accept responsibility for any work carried out with this product, as we have no control over the method of application used or the conditions at which the work was done.

\* \* \* \*



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# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

Date : 10/06/2015

## MATERIAL SAFETY DATA SHEET

### PRIMA

#### 1. Product & Company Identification

Substance identification	:	Dish Washing liquid
Trade Name	:	3C CHEMICALS - PRIMA
Generic description	:	Perfumed nonionic and anionic liquid detergent
CAS number	:	Not applicable (Intentional mixture)
Main Components CAS#	:	9004-82-4, 85117-49-3, 61791-31-9
Company Identification	:	Fayfa Chemicals Factory LLC P.O. Box 6246, Dubai – U.A.E.
Contact No.	:	Tel : 04-3472082, Fax : 04-3472042 Email : <a href="mailto:fayfa@emirates.net.ae">fayfa@emirates.net.ae</a>

#### 2. Composition/Information on Ingredients

Hazardous component(s)	:	Non hazardous
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#### 3. Hazardous identification

Main hazards	:	Not classified as hazardous
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#### 4. Health hazard data

Inhalation	:	Not considered a hazard under normal condition.
Skin Contact	:	Prolonged contact may cause irritation in some cases
Eye contact	:	Will cause irritation
Ingestion	:	May cause nausea

#### 5. First Aid measures

Inhalation	:	No adverse effects are predicted
Skin contact	:	Rinse with water
Eye contact	:	Flush with water. Seek medical attention if irritation persists
Ingestion	:	Dilute ingested material with plenty of water. Do not induce vomiting. If patient is conscious wash out mouth and give water to drink to dilute ingested material. Seek medical attention immediately



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 6. Fire Fighting measures

Auto ignition temperature	:	Not determined
Flammability	:	Non flammable
Suitable extinguishing media	:	Dry chemical, foam or water spray

## 7. Accidental Release measures

Spillage	:	Absorb large spillages onto sand or any absorbent material and dispose off in accordance with local authority regulations. Small spillages may be rinsed away
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## 8. Handling and Storage

Handling	:	See section 9
Storage	:	Storage at ambient temperature

## 9. Personal Protection

Respiratory protection	:	Not required in normal use. However adequate ventilation is advisable
Skin protection	:	People with sensitive or eczematous skin should wear protective rubber gloves.
Eye protection	:	It is good practice to use eye protection, when handling any bulk chemical

## 10. Physical and Chemical Properties

Physical state at 20 deg C	:	Green Viscous perfumed liquid
Odour	:	Herbal orange
Solubility in water (% weight)	:	Soluble in all proportions
pH @ 25 deg C	:	7.5 $\pm$ 0.5
Density (g/cc)@ 20 deg C	:	1.03 $\pm$ 0.01
Viscosity @ 27 deg C (#2, 20 rpm Brookfield viscometer)	:	1300 cps $\pm$ 100 cps

## 11. Stability and Reactivity

Decomposition	:	None when stored and used correctly
Stability and reactivity	:	Stable at ambient temperature
Incompatible materials	:	Natural rubber



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 12. Toxicological Information

Skin contact	:	On prolonged & or repeated contact may cause irritation
Eye contact	:	Will cause irritation
Ingestion	:	May cause nausea.

## 13. Disposal considerations

Disposal	:	See section 7
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## 14. Transportation information

UN Number	:	N/A
Road/Rail	:	N/A
IMCO class	:	N/A
Packaging group	:	N/A

## 15. Other information

The information is given based on our present knowledge and is intended as a general guideline to this production use. It does not constitute the users own assessment of workplace risk as required by other Health and Safety legislation.



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# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

Date : 10/06/2015

## PRODUCT INFORMATION SHEET

### 3C CHEMICALS - PINOLFORTE

#### Pine Disinfectant

#### General characteristics :

3C CHEMICALS - PINOLFORTE is based on Lauryl-di-methyl-benzyl ammonium chloride, which has high bactericidal properties.

#### Features :

3C CHEMICALS - PINOLFORTE is the ideal product for one step disinfection and deodorisation. It exhibits good disinfecting properties and has a lingering pine fragrance.

#### Specifications :

Appearance	: Brown, slightly viscous liquid
Sp. gr. At 28 deg C	: $1.00 \pm 0.01$
Viscosity At 25 deg C (UL adaptor, 500, 100 rpm Brookfield viscometer)	: $25 \text{ cps} \pm 5.0 \text{ cps}$
PH	: $6.5 \pm 0.5$



#### Areas of Applications :

3C CHEMICALS - PINOLFORTE can be extensively used for disinfection of sinks, drains, toilets, urinals, work areas and bath rooms. It can also be used for spraying in sick rooms. As 3C CHEMICALS - PINOLFORTE is based on pine oil it has good deodorizing properties.

Contd. 2

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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: 2 :

## Method of application and dilution :

3C CHEMICALS - PINOLFORTE can be readily diluted with clean water. The disinfectant after dilution can be applied by spray, mop or brush. It is best advised to leave the surface for a few minutes, before rinsing with water. Full bactericidal activity will need short duration before the disinfectant can be rinsed off.

For disinfection of sinks, drains, toilets and urinals, 3C CHEMICALS - PINOLFORTE can be diluted upto 1 : 2 with water.

For disinfection of floors, walls etc., it is recommended to dilute 3C CHEMICALS - PINOLFORTE in a dilution of 1 : 50 for good results. Higher rates of dilution may also be possible.

For spraying applications, it is best advisable to dilute 1 part of 3C CHEMICALS - PINOLFORTE with about 20 to 30 parts of water.

For mopping of floors, for routine maintenance with good deodorizing results, 3C CHEMICALS - PINOLFORTE can be used in dilution of 1 : 5.

## Safety precautions :

KEEP OUT OF REACH OF CHILDREN



3C CHEMICALS - PINOLFORTE being a disinfectant, is to be handled with care. It is recommended to avoid prolonged skin contact with the neat product. In case of eye contact, wash with copious amounts of water and seek medical attention if necessary. In case of accidental ingestion, give plenty of water and seek medical attention. Do not re-use empty containers and destroy promptly.

Packing : 3C CHEMICALS - PINOLFORTE is available in cans of 5 litres packed four in a carton.

Contd. 3

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# FAYFA CHEMICALS FACTORY (L.L.C.)

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: 3 :

**NOTE** : Use this information sheet only as a guide for the use of this product.  
The information provided is in accordance with the latest technical developments. We do not accept responsibility for any work carried out with this product, as we have no control over the method of application used or the conditions at which the work was done.

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# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

Date : 10/06/2015

## MATERIAL SAFETY DATA SHEET

### PINOLFORTE

#### 1. Product & Company Identification

Substance identification : Pine Disinfectant  
Trade Name : 3C CHEMICALS - PINOLFORTE  
Generic description : Mixture of lauryl-di-methyl-benzyl ammonium  
CAS number : Not applicable (Intentional mixture)  
Main Components CAS# : 68989-00-4, 9004-62-0  
  
Company Identification : Fayfa Chemicals Factory LLC  
P.O. Box 6246, Dubai – U.A.E.  
Contact No. : Tel : 04-3472082, Fax : 04-3472042  
Email : [fayfa@emirates.net.ae](mailto:fayfa@emirates.net.ae)

#### 2. Composition/Information on Ingredients

Hazardous component(s) : Non hazardous

#### 3. Hazardous identification

Main hazards : Not classified as hazardous

#### 4. Health hazard data

Inhalation : Not considered a hazard under normal condition.  
Skin Contact : Prolonged contact may cause irritation in some cases  
Eye contact : Will cause irritation  
Ingestion : May cause some nausea

#### 5. First Aid measures

Inhalation : No adverse effects are predicted  
Skin contact : Rinse with water  
Eye contact : Flush with water. Seek medical attention if irritation persists  
Ingestion : Dilute ingested material with plenty of water. Do not induce vomiting. If patient is conscious wash out mouth and give water to drink to dilute ingested material.  
Seek medical attention immediately



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# FAYFA CHEMICALS FACTORY (L.L.C.)

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## 6. Fire Fighting measures

Auto ignition temperature	:	Not determined
Flammability	:	Non flammable
Suitable extinguishing media	:	Dry chemical, foam or water spray

## 7. Accidental Release measures

Spillage	:	Absorb large spillages onto sand or any absorbent material and dispose off in accordance with local authority regulations. Small spillages may be rinsed away
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## 8. Handling and Storage

Handling	:	See section 9
Storage	:	Storage at ambient temperature

## 9. Personal Protection

Respiratory protection	:	Not required in normal use. However adequate ventilation is advisable
Skin protection	:	People with sensitive or eczematous skin should wear protective rubber gloves.
Eye protection	:	It is good practice to use eye protection, when handling any bulk chemical

## 10. Physical and Chemical Properties

Physical state at 20 deg C	:	Brown, slightly viscous liquid
Odour	:	Characteristic
Solubility in water (% weight)	:	Soluble in all proportions
pH value	:	6.5 $\pm$ 0.5
Density (g/cc)@ 20 deg C	:	1.00 $\pm$ 0.01
Viscosity @ 25 deg C (UL adaptor, S00, 100 rpm Brookfield viscometer)	:	25 cps $\pm$ 5 cps



## 11. Stability and Reactivity

Decomposition	:	None when stored and used correctly
Stability and reactivity	:	Stable at ambient temperature
Incompatible materials	:	Natural rubber

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# FAYFA CHEMICALS FACTORY (L.L.C.)

A member of Rashed Al Makhawi group

## 12. Toxicological Information

Skin contact	:	On prolonged & or repeated contact may cause irritation
Eye contact	:	Will cause irritation
Ingestion	:	May cause nausea.

## 13. Disposal considerations

Disposal	:	See section 7
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## 14. Transportation information

UN Number	:	N/A
Road/Rail	:	N/A
IMCO class	:	N/A
Packaging group	:	N/A

## 15. Other information

The information is given based on our present knowledge and is intended as a general guideline to this production use. It does not constitute the users own assessment of workplace risk as required by other Health and Safety legislation.



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# مؤسسة زلال للتقنيات للمقاولات العامة Aqua – Tech Gen Cont. Est

C.R. 2055025581

س. ت. ٢٠٥٥.٢٥٥٨١

## Eco-Friendly Cleaning Products

Eco-friendly cleaning supplies have risen in popularity over the past decade. They have proven that they are here to stay, while chemical cleaning agents are on the way out.

Leading Australian businesses are paving the way by using eco cleaning products. The trend reflects amongst consumers and their attitudes. Society is aware of how vulnerable the environment is to harsh chemical cleaning products. Chemical cleaning agents can range from household cleaners to industrial glass cleaner. The health benefits gained from using eco-friendly cleaning solutions, are becoming more publicised. People will always desire the healthier alternative for their personal use.

Society has become aware of the multiple side-effects chemical toxins have on the environment. They increase smog and reduce the quality of drinking water, toxic for native animals.

Harsh chemicals like Nitrogen, phosphorus and ammonia are present in many chemical cleaners. Including bathroom cleaners, dishwasher cleaner soap and many other common cleaning products. This is an issue as many chemical cleaners are flushed down drains. As families and business clean their properties, they are unwittingly contaminating the drain water.

Some chemicals are removed by water treatment plants before they enter the natural environment. However, nitrogen, phosphorus and ammonia are not among those filtered.

As these chemicals build up in waterways they change the environment in different ways. They can result in an overbalance of some species through excessive plant growth. This reduces the population of other species, leaving an unbalanced ecosystem.

When the hyper nourished plants die off they then deplete the oxygen in the water. This causes further harm to the other plants and animals. Over time the water becomes unsuitable for drinking, cooking and swimming.

Volatile organic compounds (VOC) also pollute the environment. Found in many chemical house cleaners, common products include all-purpose cleaners and floor cleaners. The effects are so severe in some areas, that chemical cleaners using VOC are limited for those regions. The smog and harmful effects of VOC is recognised The Environmental Protection Authority.

To ensure a sustainable environment, the future of cleaning products must be entirely VOC free. People are demanding safe, natural cleaning products. Rightfully, they want ones with no impact on either the environment or their personal health.

Customers should demand a quality certification for the green cleaning products they are using. This will ensure the products have no negative effect on the ecosystem.

Aqua Tech Co. ensures quality and environmental protection for our eco-friendly cleaning products.







## Material Safety Data Sheet (MSDS) CORRUGATED CARTON BOXES

### 1. IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name : *Corrugated Carton Boxes*  
Type : *Regular Slotted Container (RSC), Die-cut, Specialty oriented products.*  
Manufacturer : *Easternpak*  
*P.o. Box: 9942, Dammam-31423*  
*Tel.: (03) 8121341*  
*Fax: (03) 8121305*

### 2. COMPOSITION AND INGREDIENTS INFORMATION

The Corrugated carton board is a combination of papers (Kraft Liner /Test Liner /Semi-chemical /White top /clay coated) used as Liners and medium and the papers are bonded together by Glue (maize/corn starch). Papers are combined based on the customer specification / requirements. In case of printed, the inks used are water based and lead free ink.

### 3. HAZARD IDENTIFICATION

Corrugated Carton presents NO hazard to man (chemically inert) and environment and the product is highly environmental friendly. However the product presents Fire related hazard as it is paper product.

Extinguishing media: Water, CO<sub>2</sub> and Sand

### 4. HANDLING AND STORAGE

#### Handling

- Handle the product on proper size of pallets and use gloves for ensuring safety.
- Care should be always taken to keep the product in dry area.

#### Storage

- Store the product in dry atmosphere (heavy moisture may affect the strength of carton box) and shaded area. Avoid keeping under direct Sunlight.
- Ensure no electrical sparks, damaged electrical lining passing through storage area.
- Enough care/ precaution shall be taken if any hot work carried out near storage area.
- Materials of explosive nature should not be stored near carton boxes.
- Keep away from insects as biologically degradable.





## **Material Safety Data Sheet (MSDS)**

### **CORRUGATED CARTON BOXES**

#### **5. DISPOSAL INSTRUCTION**

All Corrugated carton boxes are Recyclable (or burn if allowed by local authorities)

#### **6. FIRST AID MEASURES**

6.1 Inhalation: In the recommended temperature usage range no fumes are evolved from product.

6.2 Skin Contact: Since corrugated carton boxes are chemically inert, they pose NO health risks.

6.3 Ingestion: The form of corrugated products makes it very difficult to be ingested.

#### **7. OTHER INFORMATION**

Always keep the material away from fire, rain, excessive moisture and explosive materials. Do not store the product for long time as it's biologically degradable and affected by environment.

#### **8. DECLARATION**

Information contained in this Material Safety Data Sheet is based entirely on our general experience and is given in good faith but we are unable to accept responsibility in respect of factors which are outside our knowledge, our scope or control.

It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary.



## PRODUCT SPECIFICATION

UN Number	: 3159
Product	: KLEA 134a - Standard Refrigeration Grade
Manufacturing Location	: St.Gabriel, Mihara
Specification Type	: Standard Sales
Specification Number	: GC/K134/S1
Specification Source	: Air Conditioning and Refrigeration Institute
Document Released	: Released

Appearance  
colourless liquefied

Clear

Particulates/Solids  
to pass

gas  
Visually clean

Water	ppm by weight	10.	maximum
Halides	ppm by weight	3.	maximum
High Boiling Point Impurities	% by volume	0.01	maximum
Non-Absorbable Gases	% by volume (vapour phase)	1.5	maximum
Acidity	ppm by weight	1.0	maximum
Purity (R134a content)	% by weight	99.8	minimum
(R134a + R134 content)	% by weight	99.9	minimum

### Other Refrigerants

Halogenated volatile unsaturated Impurities	ppm by weight	40.	maximum
Total Other Refrigerants	ppm by weight	1000.	maximum
Total Chlorinated Organic Impurities	ppm by weight	500.	maximum
Total Available Chlorine (see note)	ppm by weight	300.	maximum

### Note

Chlorinated impurities are organic impurities containing chlorine. Available chlorine is the chlorine content of individual organic impurities. Total chlorine will always be less than maximum chlorinated impurities.

Derived from Manufacturing Specification GC/K134/M1

### ADDITIONAL INFORMATION

Specification meets SAE J2776 purity standard









## PRODUCT SPECIFICATION

UN Number	: 3337
Product	: KLEA 404A (125/143A/134A 44/52/4)
Manufacturing Location	: -
Specification Type	: Standard Sales
Specification Number	: GC/R125-143-134/S1
Specification Source	: Product Steward
Document Released	: Released

R125 content	% by weight	42 - 46	
R143a content	% by weight		51 - 53
R134a content	% by weight	2 - 6	
Non-absorbable gases	% by volume (vapour phase)	1.5	maximum
Water	ppm by weight	10.	maximum
Purity	% by weight	99.5	minimum
High-boiling impurities	% by volume	0.01	maximum
Appearance			Clear, colourless liquefied
gas			
Acidity	ppm by weight	1.0	maximum
Halides (Chloride)	ppm by weight	3.	maximum

### ADDITIONAL INFORMATION

Conforms to the specification for fluorocarbon refrigerants stated in AHRI Standard 700.





**1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING****Product Name** KLEA™ 404A

Hazardous ingredient(s)	REACH Registration No.
1,1,1-Trifluoroethane (HFC 143a)	01-2119492869-13-0003
Pentafluoroethane (HFC 125)	01-2119485636-25-0005
1,1,1,2-tetrafluoroethane (HFC 134a)	01-2119459374-33-0000

Manufacturer Mexichem UK Limited  
The Heath Business & Technical Park  
Runcorn  
Cheshire  
WA7 4QX  
United Kingdom  
Tel: +44(0) 1928 514840  
E-Mail: info@mexichem.com

Emergency Phone No. IN AN EMERGENCY DIAL 999 (UK Only)  
For specialist advice in an emergency telephone +44(0) 1928 572000

Use Subject to Member State regulations, applicable uses are: refrigerant

**2. HAZARDS IDENTIFICATION**

Low acute toxicity. High exposures may cause an abnormal heart rhythm and prove suddenly fatal. Very high atmospheric concentrations may cause anaesthetic effects and asphyxiation.  
Liquid splashes or spray may cause freeze burns to skin and eyes.

EC Classification Not classified as dangerous according to EC Directive 1999/45/EC.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Alternative names R 404A

**HAZARDOUS INGREDIENT(S)**

Hazardous ingredient(s)	%(w/w)	CAS No.	EC No.	EC Classification
1,1,1-Trifluoroethane (HFC 143a)	52	000420-46-2	206-996-5	F+ R12
Pentafluoroethane (HFC 125)	44	000354-33-6	206-557-8	
1,1,1,2-tetrafluoroethane (HFC 134a)	4	000811-97-2	212-377-0	

**4. FIRST AID MEASURES**

The first aid advice given for skin contact, eye contact, and ingestion is applicable following exposures to the liquid or spray. See also section 11.

Inhalation

Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention.

Skin Contact

Thaw affected areas with water. Remove contaminated clothing. Caution: clothing may adhere to the skin in the case of freeze burns. After contact with skin, wash immediately with plenty of warm water. If irritation or blistering occur obtain medical attention.

Eye Contact

Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain immediate medical attention.



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Ingestion	Unlikely route of exposure. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain immediate medical attention.
Further Medical Treatment	Symptomatic treatment and supportive therapy as indicated. Adrenaline and similar sympathomimetic drugs should be avoided following exposure as cardiac arrhythmia may result with possible subsequent cardiac arrest.

## 5. FIRE-FIGHTING MEASURES

General	This refrigerant is not flammable in air under ambient conditions of temperature and pressure. Certain mixtures of this refrigerant and air when under pressure may be flammable. Mixtures of this refrigerant and air under pressure should be avoided. Certain mixtures of HFCs and chlorine may be flammable or reactive under certain conditions. Thermal decomposition will evolve very toxic and corrosive vapours. ( hydrogen fluoride ) Containers may burst if overheated.
Extinguishing media	As appropriate for surrounding fire. Keep fire exposed containers cool by spraying with water.
Fire Fighting Protective Equipment	A self contained breathing apparatus and full protective clothing must be worn in fire conditions. See Also Section 8

## 6. ACCIDENTAL RELEASE MEASURES

Personal Protection	Ensure suitable personal protection (including respiratory protection) during removal of spillages. See Also Section 8
General	Provided it is safe to do so, isolate the source of the leak. Allow small spillages to evaporate provided there is adequate ventilation. Large spillages: Ventilate area. Contain spillages with sand, earth or any suitable adsorbent material. Prevent liquid from entering drains, sewers, basements and workpits since the vapour may create a suffocating atmosphere.

## 7. HANDLING AND STORAGE

Handling	<p>Avoid inhalation of high concentrations of vapours. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Atmospheric concentrations well below the occupational exposure limit can be achieved by good occupational hygiene practice.</p> <p>The vapour is heavier than air, high concentrations may be produced at low levels where general ventilation is poor, in such cases provide adequate ventilation or wear suitable respiratory protective equipment with positive air supply.</p> <p>Avoid contact with naked flames and hot surfaces as corrosive and very toxic decomposition products can be formed.</p> <p>Avoid contact between the liquid and skin and eyes.</p> <p>For correct refrigerant composition, systems should be charged using the liquid phase and not the vapour phase.</p> <p>Avoid venting to atmosphere.</p> <p>The fluorinated greenhouse gas R 404A may be supplied in returnable containers (drums/cylinders). The container contains fluorinated greenhouse gases covered by the Kyoto Protocol. The fluorinated greenhouse gases in containers may not be vented to the atmosphere. Regulation (EC) No. 842/2006 of the European Parliament and the Council on certain fluorinated greenhouse gases.</p>
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## Process Hazards

Liquid refrigerant transfers between refrigerant containers and to and from systems can result in static generation. Ensure adequate earthing. Certain mixtures of HFCs and chlorine may be flammable or reactive under certain conditions.

Care must be taken to mitigate the risk of developing high pressures in systems caused by a temperature rise when liquid is trapped between closed valves or in cases where containers have been overfilled.

## Storage

Keep in a well ventilated place away from fire risk and avoid sources of heat such as electric or steam radiators.

Avoid storing near to the intake of air conditioning units, boiler units and open drains.

## Specific use

Subject to Member State regulations, applicable uses are: refrigerant

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### General

Wear suitable protective clothing, gloves and eye/face protection. Wear thermal insulating gloves when handling liquefied gases. In cases of insufficient ventilation, where exposure to high concentrations of vapour is possible, suitable respiratory protective equipment with positive air supply should be used.



Eye Protection



Gloves

### Occupational exposure limits

Occupational Exposure Limits	CAS No.	LTEL (8 hr TWA ppm)	LTEL 8 hr TWA mg/m³	STEL (ppm)	STEL mg/m³	Note:
1,1,1-Trifluoroethane (HFC 143a)	000420-46-2	1000	-	-	-	COM
Pentafluoroethane (HFC 125)	000354-33-6	1000	-	-	-	COM
1,1,1,2-Tetrafluoroethane (HFC 134a)	000811-97-2	1000	4240	-	-	WEL

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form  
Colour.

Odour

Solubility (Water)

Solubility (Other)

Boiling Point (°C)

Vapour density (Air=1)

Vapour pressure (mmHg)

Density (g/ml)

liquefied gas

colourless

slight ethereal

insoluble

Soluble in: alcohols, chlorinated solvents, esters

-47.2 to -46.4 (boiling range)

3.42 at bubble point temperature

8270 at 20 °C

1.06 at 20 °C

## 10. STABILITY AND REACTIVITY

### Hazardous Reactions

Certain mixtures of HFCs and chlorine may be flammable or reactive under certain conditions.

Incompatible materials: finely divided metals, magnesium and alloys containing more than 2% magnesium. Can react violently if in contact with alkali metals and alkaline earth metals - sodium, potassium, barium

### Hazardous Decomposition Product(s)

hydrogen fluoride by thermal decomposition and hydrolysis.



**11. TOXICOLOGICAL INFORMATION**

Inhalation	High exposures may cause an abnormal heart rhythm and prove suddenly fatal. Very high atmospheric concentrations may cause anaesthetic effects and asphyxiation.
Skin Contact	Liquid splashes or spray may cause freeze burns. Unlikely to be hazardous by skin absorption.
Eye Contact	Liquid splashes or spray may cause freeze burns.
Ingestion	Highly unlikely - but should this occur freeze burns will result.
Long Term Exposure	<p>HFC 143a : An inhalation study in animals has shown that repeated exposures produce no significant effects (40000ppm in rats).</p> <p>HFC 125 : An inhalation study in animals has shown that repeated exposures produce no significant effects (50000ppm in rats).</p> <p>HFC 134a : A lifetime inhalation study in rats has shown that exposure to 50000ppm resulted in benign tumours of the testis. The increased tumour incidence was observed only after prolonged exposure to high levels, and is considered not to be of relevance to humans occupationally exposed to HFC 134a at or below the occupational exposure limit.</p>

**12. ECOLOGICAL INFORMATION**

Environmental Fate and Distribution	High tonnage material produced in wholly contained systems. High tonnage material used in open systems. Vapour
Persistence and Degradation	<p>HFC 143a : Decomposed slowly in the lower atmosphere (troposphere). Atmospheric lifetime is 52 years.</p> <p>HFC 125 : Decomposed slowly in the lower atmosphere (troposphere). Atmospheric lifetime is 29 years.</p> <p>HFC 134a : Decomposed comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 14 years.</p> <p>R 404A: Does not influence photochemical smog (i.e. is not a VOC under the terms of the UNECE agreement). Does not deplete ozone. Has a Global Warming Potential (GWP) of 3784 (relative to a value of 1 for carbon dioxide at 100 years) according to Annex I of Regulation 842/2006 on certain fluorinated greenhouse gases. Values in Annex I are taken from the third assessment report (TAR) of the Intergovernmental Panel on Climate Change (2001 IPCC GWP values). United Nations Framework Convention on Climate Change (UNFCCC) reporting GWP is 3260.</p>
Effect on Effluent Treatment	Discharges of the product will enter the atmosphere and will not result in long term aqueous contamination.

**13. DISPOSAL CONSIDERATIONS**

Recommended:	Best to recover and recycle. If this is not possible, destruction is to be in an approved facility which is equipped to absorb and neutralise acid gases and other toxic processing products.
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## 14. TRANSPORT INFORMATION

Hazard Label



Road/Rail	
UN No.	3337
ADR/RID Class	2.2
ADR/RID Proper Shipping Name	REFRIGERANT GAS R 404A
SEA	
IMDG Class	2.2
Marine Pollutant	Not classified as a Marine Pollutant
AIR	
ICAO/IATA	2.2

## 15. REGULATORY INFORMATION

### European Regulations

EC Classification Not classified as dangerous according to EC Directive 1999/45/EC.

Special Restrictions: The fluorinated greenhouse gas R 404A may be supplied in returnable containers (drums/cylinders). The container contains fluorinated greenhouse gases covered by the Kyoto Protocol. The fluorinated greenhouse gases in containers may not be vented to the atmosphere.

Regulation (EC) No. 842/2006 of the European Parliament and the Council on certain fluorinated greenhouse gases.

Directive 2006/40/EC of the European Parliament and the Council relating to emissions from air-conditioning systems in motor vehicles and amending Council Directive 70/156/EC.

## 16. OTHER INFORMATION

This data sheet was prepared in accordance with Regulation (EC) No. 1907/2006.

Information in this publication is believed to be accurate and is given in good faith, but it is for the User to satisfy itself of the suitability for its own particular purpose. Accordingly, Mexichem UK Limited gives no warranty as to the fitness of the Product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that such exclusion is prevented by law. Freedom under Patent, Copyright and Designs cannot be assumed. Mexichem Fluor™ is a trademark, the property of Mexichem SAB de C.V. KLEA™ is a trademark, the property of Mexichem SAB de C.V.

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### Glossary

WEL: Workplace Exposure Limit (UK HSE EH40)

COM: The company aims to control exposure in its workplace to this limit

TLV: The company aims to control exposure in its workplace to the ACGIH limit

TLV-C: The company aims to control exposure in its workplace to the ACGIH Ceiling limit

MAK: The company aims to control exposure in its workplace to the German limit

Sk: Can be absorbed through skin

Sen: Capable of causing respiratory sensitisation

Bmgv: Biological monitoring guidance value (UK HSE EH40)



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### Risk Phrases

R12 Extremely flammable.

The following sections contain revisions or new statements: 1





## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** KLEA®134a  
**Product Use:** Refrigerant  
**Alternate Names:** Fluorocarbon 134a, R-134a, HFC-134a, HFA-134a  
**Manufacturer:** Mexichem Fluor Inc.  
4990B ICI Rd. / P.O. Box 30  
St. Gabriel, LA 70776  
**Medical Emergency (24 hr.):** 800-298-9164  
**Transportation Emergency (24 hr.):** CHEMTREC 800-424-9300  
(outside U.S. 703-527-3887)  
**Product Information:** 800-424-5532

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients:</u>	<u>%(Wt)</u>	<u>OSHA PEL</u>
1,1,1,2-tetrafluoroethane (CAS 811-97-2)	100	Not listed

### 3. HAZARD IDENTIFICATION

#### EMERGENCY OVERVIEW:

**CAUTION!** This product is a clear, colorless, liquefied gas. Contents under pressure. Cylinders may rupture and rocket under fire conditions. Thermal decomposition can produce toxic and corrosive gases. Vapors are heavier than air. May cause asphyxia. Liquid splashes or spray may cause freeze burns (frostbite). High vapor concentrations may cause dizziness or more severe anesthetic effects. Very high exposures can cause potentially fatal abnormal heart rhythm. Read the entire MSDS for a more thorough evaluation of the hazards.

#### POTENTIAL HEALTH EFFECTS:

**Ingestion:** Extremely unlikely to occur in use.

**Eye contact:** Liquid splashes or spray may cause freeze burns.

**Skin contact:** Liquid splashes or spray may cause freeze burns.



**Skin absorption:** This product will probably not be absorbed through human skin.

**Inhalation:** Exposure to high vapor concentrations can induce anesthetic effects progressing from dizziness, weakness, nausea, to unconsciousness. Very high exposures can cause abnormal heart rhythm, which is potentially fatal. It can act as an asphyxiant by limiting available oxygen.

**Other effects of overexposure:** None expected.

#### **4. FIRST AID MEASURES**

**Skin:** Immediately wash with plenty of warm water (do not rub). Thaw affected area with water. Remove contaminated clothing. Caution: clothing may adhere to the skin in case of freeze burns. If symptoms (irritation or blistering) develop, get medical attention.

**Eyes:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Hold eyelids open during flushing. Have eyes examined and treated by medical personnel.

**Ingestion:** Highly unlikely, but should this occur, freeze burns will result. Do not induce vomiting unless instructed to do so by a physician.

**Inhalation:** Move victim to fresh air. Keep warm and at rest. If breathing is labored, give oxygen. If only breathing has stopped, give artificial respiration with a pocket mask equipped with a one-way valve to prevent exposure to product or body fluids. If breathing has stopped AND there is no pulse, give cardiopulmonary resuscitation (CPR). Get immediate medical attention.

**Note to physician:** Symptomatic and supportive therapy, as indicated. Administration of epinephrine or similar sympathomimetic drugs should be with special caution and only in situations of emergency life support as cardiac arrhythmias may result.

#### **5. FIRE FIGHTING MEASURES**

**Flash Point:** Does not flash.

**Flammable Limits (Lower):** Not applicable.

**Flammable Limits (Upper):** Not applicable.

**Auto Ignition Temperature:** > 743°C (> 1369°F)

**Hazardous Reactions:** Reacts with finely divided metals such as aluminum, zinc, magnesium, and alloys containing more than 2% magnesium. Can react violently if in contact with alkali metals and alkaline earth metals such as sodium, potassium, or barium.

During a fire the product can form toxic and corrosive gases such as hydrogen fluoride.

**Fire and Explosion Hazards:** Compressed liquefied gas. Containers may burst under intense heat. Ruptured cylinders may rocket or fragment. Heavy vapor may suffocate.

HFC-134a is not flammable in air under ambient conditions of temperature and pressure. Under conditions of high temperature and pressure, certain HFC-134a/air mixtures were shown to be flammable. Certain mixtures of HFC-134a and chlorine may be flammable under some conditions.

**Extinguishing Media:** As appropriate for surrounding materials/equipment.

**Fire Fighting Procedures:** Water spray should be used to cool containers.



**Fire Fighting Protective Equipment:** Use self-contained breathing apparatus with a full-face piece and special protective clothing.

## **6. ACCIDENTAL RELEASE MEASURES**

Contents under pressure. Ruptured cylinder may rocket or fragment. This product is a liquefied gas, which exits the container at temperatures capable of causing freeze burns (frostbite).

Precautions should take into account the severity of the leak or spill.

Move unprotected personnel upwind of leaking container. Ventilate the spill area. Use recommended personal protection and shut off the leak, if without risk. If possible, elevate leak position to highest point of container (should leak gas, not liquid). Water should never be put on leak nor should cylinder be immersed. If possible, dike and contain spillage. Prevent liquid from entering sewers, sumps, or pit areas since vapor is heavier than air and can create a suffocating atmosphere. Capture material for recycle or destruction if suitable equipment is available.

Notify applicable government authority if release is reportable or could adversely affect the environment.

## **7. HANDLING AND STORAGE**

**Handling:** Wear appropriate personal protective equipment. A safety shower and eyewash station should be nearby and ready for use.

This product is a liquefied gas, which exits the container at temperatures capable of causing freeze burns (frostbite). Ensure personnel are trained in handling and storing cylinders. Secure containers at all times. Keep containers closed when not in use.

Ensure there is adequate ventilation or use proper respiratory protection in poorly ventilated or confined areas. Avoid causing and inhaling high concentrations of vapor. Atmospheric levels should be controlled to below the occupational exposure limit and kept as low as practicable.

Prevent liquid or vapor from entering sumps or sewers since vapor is heavier than air and may form suffocating atmospheres.

Do not put mixtures of HFC-134a with air or oxygen under pressure; do not use such mixtures for leak or pressure testing.

Do not heat containers.

Liquid transfers between containers may generate static electricity. Ensure adequate grounding.

Avoid trapping liquid between closed valves or overfilling containers as high pressures can develop with an increase in temperature.

Avoid HFC-134a contact with flames or very hot surfaces.

**Storage Requirements:** Keep containers tightly closed, in a cool, well-ventilated place. Keep containers dry. Keep away from incompatibles, open flames, hot surfaces, welding operations, and other heat sources.



**Storage Temperature:** Store at temperature not exceeding 125°F. (52°C.).

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **EXPOSURE GUIDELINES:**

**INGREDIENT NAME:** 1,1,1,2-Tetrafluoroethane

Mexichem Fluor Guideline 1000 ppm 8 hour TWA  
WEEL (AIHA) 1000 ppm 8 hour TWA  
No ACGIH TLV or OSHA PEL established.

Minimize exposure in accordance with good hygiene practice.

### **PREVENTIVE MEASURES:**

**Engineering Controls:** Use ventilation to maintain safe levels. Where appropriate engineering controls are not in place or are inadequate, wear suitable respiratory equipment.

### **PERSONAL PROTECTIVE EQUIPMENT:**

**Eye Protection:** Use chemical safety goggles or safety glasses and a face shield when there is potential for eye contact.

**Skin Protection:** Take all precautions to prevent skin contact. Use gloves and protective clothing made of material that has been found by user to be impervious under conditions of use to prevent the skin from becoming frozen from contact with liquid. User should verify impermeability under normal conditions of use prior to general use. Additional protection such as an apron, arm covers, or full body suit may be needed depending on conditions of use.

**Respiratory Protection:** Not normally needed if controls are adequate. If needed, use NIOSH/MSHA approved respirator for organic vapors. For high concentrations and oxygen-deficient atmospheres, use positive pressure air-supplied respirator.

**Other Protection:** Shower and eye wash station.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Clear, colorless liquified gas

**Boiling point:** -15.1°F., -26.2°C.

**Vapor pressure (mmHg at 20°C.):** 4270

**Vapor density (air = 1):** 3.6

**Solubility in water:** Very low

**pH:** Not applicable

**Specific gravity:** 1.22 at 20°C.

**% Volatile by volume:** 100



## **10. STABILITY AND REACTIVITY**

**Chemical Stability:** Stable under normal conditions.

**Incompatibility:** Reacts with finely divided metals such as aluminum, zinc, magnesium, and alloys containing more than 2% magnesium. Can react violently if in contact with alkali metals and alkaline earth metals such as sodium, potassium, or barium.

**Hazardous Decomposition Products:** Hydrogen fluoride by thermal decomposition and hydrolysis. Oxides of carbon and fluoride may be produced by thermal decomposition.

**Conditions to Avoid:** Keep away from heat, sparks, and flame. Avoid high temperatures.

**Hazardous polymerization:** Will not occur.

## **11. TOXICOLOGICAL INFORMATION**

### **POSSIBLE HUMAN HEALTH EFFECTS:**

**Routes of exposure:** Inhalation, ingestion, eye, and skin contact.

**Inhalation:** High atmospheric concentrations may lead to anesthetic effects, including loss of consciousness. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal. Higher concentrations may cause asphyxiation due to reduced oxygen content of the atmosphere.

**Ingestion:** Highly unlikely, but should this occur, freeze burns will result.

**Eye contact:** Liquid splashes or spray may cause freeze burns.

**Skin contact:** Liquid splashes or spray may cause freeze burns.

**Other effects:** None anticipated.

**Carcinogenicity:** None of the ingredients are classified as carcinogenic by IARC, ACGIH, NTP, or OSHA.

### **ANIMAL DATA:**

**LC<sub>50</sub>:** 4 hr. (inh., rat) = > 500,000 ppm

Slight eye irritation resulted from a brief spray of vapor.

The material was a slight skin irritant, but not a skin sensitizer.

The threshold for cardiac sensitization (arrhythmias) in dogs pretreated with epinephrine was an atmosphere of 75,000 ppm. The no observed effect level (NOEL) was 50,000 ppm.

No effect of any kind was seen in a 90-day inhalation study in the rat at dose levels up to, and including 50,000 ppm (6 hours per day, 5 days per week).

No developmental effects were seen in the rabbit following inhalation exposure to 40,000 ppm during gestation despite slight maternal toxicity. In a range-finding study in the rabbit, possible minimal embryo lethality was seen at a dose level of 50,000 ppm. In the rat, slight fetotoxicity was present at an inhalation dose of 50,000 ppm administered during gestation and no effects were seen at 10,000 ppm. In another study in the rat, no developmental effects were seen at a dose of 100,000 ppm in the presence of slight maternal toxicity; clear maternal effects were followed by embryo toxicity and fetotoxicity at a dose level of 300,000 ppm. There were no



increases in the incidence of fetal malformations in rats or rabbits at doses up to and including 300,000 ppm and 50,000 ppm, respectively.

HFC-134a showed no genetic toxicity in a range of *in-vitro* and *in-vivo* tests. No adverse effects were found in a study in which rats were followed to week 104 after receiving 300 mg/kg bodyweight/day of HFC-134a by gavage for 52 weeks. In a 2-year inhalation study in rats, no adverse effects of any kind were observed except increased incidences of non-life threatening, benign, microscopic testicular interstitial (Leydig) cell tumors and associated interstitial cell hyperplasia which were confined to the top dose of 50,000 ppm.

## **12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information:** *Daphnia* 48 hour EC50: 980 mg/l. Rainbow trout 96 hour LC50: 450 mg/l.

**Persistence and Degradation:** Decomposes comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 14 years. Products of decomposition will be highly dispersed and hence will have a very low concentration. It is not a significant contributor to photochemical smog and is not considered to be a VOC. Is not considered an ozone-depleting chemical.

**Effect on Effluent Treatment:** Discharges of the product will enter the atmosphere and will not result in long-term aqueous contamination.

## **13. DISPOSAL CONSIDERATIONS**

**Disposal Method:** Discarded product is not a hazardous waste under RCRA, 40 CFR 261. However, HFC-134a should be recycled, reclaimed, or destroyed whenever possible.

**Container Disposal:** For disposable (DOT 39) cylinders only. Do not distribute, make available, furnish, or reuse container when emptied of the original product. Open valve to remove pressure in the cylinder. Then puncture, drill, crush, or otherwise destroy empty cylinder and dispose of in a facility permitted for nonhazardous waste. Return all other containers to supplier.

**Refrigeration Application:** Subject to "no venting" regulations of Sections 608 and 609 of the Clean Air Act during the service or disposal of equipment.

## **14. TRANSPORT INFORMATION**

**DOT Hazard Description:**

**Proper Shipping Name:** 1,1,1,2-tetrafluoroethane **or** Refrigerant gas R 134a

**Hazard Class:** 2.2

**Identification Number:** UN 3159

**Packing Group:** None

**Hazardous Substance (RQ):** None

**Placard/Label:** Non-Flammable gas



## **15. REGULATORY INFORMATION**

**TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710:** All Ingredients are on the TSCA Chemical Substances Inventory.

### **CERCLA and SARA Regulations:**

40 CFR 372: This product does not contain any chemicals subject to reporting requirements of SARA Section 313.

40 CFR 355: This product does not contain any "extremely hazardous chemical" subject to the requirements of SARA Section 312.

40 CFR 370: Hazardous properties as defined under the Hazard Communication Standard (29 CFR 1910.1200)

Health: Acute effects (CNS depression, cardiac sensitization).

Physical: Compressed liquefied gas.

(Actions may be necessary under SARA Section 311 – consult regulations for applicability).

## **16. OTHER INFORMATION**

The information herein is given in good faith, but no warranty, expressed or implied, is made.





# MATERIAL SAFETY DATA SHEET

## Diesel

MSDS: 844  
REVISION: 01/30/2012

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Diesel**

SYNONYMS: #2 Diesel Clear, Diesel Government Use, F76 Navy Distillate, Heating Oil #2, Low Sulfur Diesel-Off Road, Ultra Low Sulfur Diesel-Clear, Ultra Low Sulfur Diesel-Dyed, #2 Fuel Oil, ULSD

PRODUCT CODE: #2 Diesel Clear (311100) Ultra Low Diesel Clear w/ CENEX (302301)  
Diesel, Govt. Use (312400) Ultra Low Premium Diesel, Clear (301101)  
Dyed Premium Diesel, Ultra Low (302301) Ultra Low Sulfur Diesel, Dyed (Dock) (3023003)  
Dyed Ultra Low Diesel w/ CENEX (3023002) Ultra Low Sulfur Diesel, Clear (301100)  
F76 Navy Distillate (311400) Ultra Low Sulfur Diesel, Dyed (302300)  
Heating Oil (312200)  
Low Sulfur Diesel, Off Road (312300)

This Material Safety Data Sheet applies to the listed products and synonym descriptions for Hazard Communication purposes only. Technical specifications vary greatly depending on the product and are not reflected in this document. Consult specification sheets for technical information. This product contains ingredients that are considered to be hazardous as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

IMPORTANT: Read this MSDS before handling or disposing of this product. Pass this information on to employees, customers and product users.

MANUFACTURER: U.S. Oil & Refining Co.  
ADDRESS: 3001 Marshall Avenue  
Tacoma, WA 98421

EMERGENCY: 253-383-1651  
FAX: 253-272-2495  
CHEMTREC: 800-424-9300  
NATIONAL RESPONSE: 800-424-8802

CHEMICAL FAMILY: Hydrocarbon

PREPARED BY: U.S. Oil & Refining Co.

CAS #: 68476-34-6

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

NAME	CAS NUMBER	CONCENTRATION %
Diesel Fuel #2	68476-34-6	0 – 100%
Kerosene	8008-20-6	0 – 100%
Fuels, Diesel	68334-30-5	0 – 100%
Fuel Oil #2	68476-30-2	0 – 100%
Naphthalene	91-20-3	0 – 0.5 %



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## SECTION 3: HAZARDS IDENTIFICATION

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**Warning!** Combustible. Mist or vapors can cause a flash fire. Liquid, mist or vapors can cause eye, skin and respiratory tract irritation. Ingestion or liquid aspiration into the lungs can result in chemical pneumonia.

**PHYSICAL STATE:** Liquid  
**COLOR:** Varies, clear, yellow (pale to straw), greenish-yellow, red, green color.  
**ODOR:** Faint petroleum odor

**ROUTES OF ENTRY:** Dermal Contact, Eye Contact, Inhalation, Ingestion

**POTENTIAL HEALTH EFFECTS:**

**EYES:** Eye irritation may result from contact with liquid, mist and/or vapors. Effects may become serious with repeated or prolonged contact.

**SKIN:** Contact with skin may cause irritation. Prolonged contact may cause dermatitis. Repeated contact may cause harmful effects in other parts of the body.

**INGESTION:** This material can irritate the mouth, throat, and/or stomach. Aspiration into the lungs may cause chemical pneumonia. In severe cases loss of consciousness may occur.

**INHALATION:** Vapors or mists can irritate the nose, throat and/or lungs. Breathing high concentrations can cause dizziness, headache and vomiting or loss of consciousness.

**MEDICAL CONDITIONS  
GENERALLY  
AGGRAVATED BY  
EXPOSURE:** This product contains petroleum distillates similar to those shown to produce skin tumors on laboratory animals. Avoid prolonged or repeated skin contact.

**OVER-EXPOSURE  
SIGNS/SYMPTOMS:** Headache, severe eye irritation, nausea, dizziness, damage to central nervous system, respiratory depression, convulsions, or loss of consciousness.

**See toxicological information (section 11)**



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## SECTION 4: FIRST AID MEASURES

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<b>EYES:</b>	Flush eyes with plenty of water for a minimum of 15 minutes. Seek medical care if irritation persists.
<b>SKIN:</b>	Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops. Launder or dry-clean clothing prior to re-use.
<b>INGESTION:</b>	<b>WARNING! DO NOT INDUCE VOMITING.</b> If aspirated into the lungs, may cause chemical pneumonitis. Seek medical attention immediately.
<b>INHALATION:</b>	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:</b>	Ingestion/Inhalation of this product or subsequent vomiting may lead to aspiration, which may cause pneumonitis.



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## SECTION 5: FIRE-FIGHTING MEASURES

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**FLAMMABILITY OF THE PRODUCT:**

**Combustible liquid**

Flammable limits in air (% by volume)

LOWER: Approx 0.7  
UPPER: Approx 5.0

**FLASH POINT:**

Approximately 52°C, (125°F)

**AUTOIGNITION TEMPERATURE:**

Approximately 257°C (495°F)

**PRODUCTS OF COMBUSTION:**

Normal combustion forms water vapor and carbon dioxide. Incomplete burning can produce carbon monoxide and particulate matter.

**FIRE-FIGHTING MEDIA AND INSTRUCTIONS:**

Combustible Liquid. Use dry chemical, foam or carbon dioxide to extinguish the fire. Consult foam manufacturer for appropriate media, application rates and water/foam ratio. If a leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers.

Collect contaminated fire-fighting water separately. It must not enter the municipal sewage system. Dike area to prevent runoff. Decontaminate emergency personnel and equipment with soap and water.

Combustible liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flashback. Runoff to sewer may create fire or explosion hazard.

**SPECIAL FIRE FIGHTING EQUIPMENT:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Cool tanks, containers and exposed structures with water.

**UNUSUAL FIRE & EXPLOSION HAZARDS:**

Moderately combustible. When heated above the flash point, this material will release flammable vapors which if exposed to a source of ignition can burn or be explosive in confined spaces. Mists or sprays may be flammable at temperatures below the normal flash point. Keep away from heat and open flame.



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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### PERSONAL PRECAUTIONS:

Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Do not touch or walk through spilled material. Tanks, vessels or other confined spaces which have contained product should be freed of vapors before entering. The container should be checked to ensure a safe atmosphere before entry. Empty containers may contain toxic, flammable/combustible or explosive residues or vapors. Do not cut, grind, drill, weld or reuse empty containers that contained this product. Do not transfer this product to another container unless the container receiving the product is labeled with proper DOT shipping name, hazard class and other information that describes the product and its hazards.

### ENVIRONMENTAL PRECAUTIONS:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Review Fire Fighting Measures section before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) away from release. Contain spill in smallest possible area.

Recover as much product as possible (e.g., by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 800-424-8802. For highway or railway spills, contact Chemtrec at 800-424-9300.

### METHODS FOR CLEANING UP:

If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Water spill: Eliminate sources of ignition and warn other ships in the area to stay clear. Notify the proper authorities. Confine with skimming equipment if available or set booms to recover the spill.



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## SECTION 7: HANDLING & STORAGE

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### HANDLING:

Do not ingest. Do not get in eyes, on skin or on clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling. In case of fire, use water spray, foam, dry chemical or carbon dioxide as described in the Fire Fighting Measures section of the MSDS. Do not pressurize, cut, weld, braze, solder, drill on or near this container. "Empty" container contains residue (liquid and/or vapor) and may explode in heat of a fire. Use good personal hygiene practices. After handling this product, wash hands before eating, drinking or using toilet facilities. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Do not use as a cleaning solvent or for other non-fuel uses. To prevent ingestion and exposure - Do not siphon by mouth to transfer product between containers.

### STORAGE:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

For information regarding transferring material refer to OSHA Standard 29 CFR 1910.106, "Flammable and Combustible Liquids", National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity", and/or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents".



## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Special ventilation may be required for handling conditions at elevated temperatures. Ensure that eyewash stations and safety showers are close to the workstation location.

### PERSONAL PROTECTION:

**SKIN:** 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. Flame retardant clothing is recommended. In case of skin contact, wash with mild soap and water or a waterless hand cleaner. Immediately remove soiled clothing and wash thoroughly before reuse. Discard oil-soaked leather goods.

**RESPIRATORY:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**EYE:** Eye protection (chemical-type goggles and/or face shield) should be worn whenever there is a likelihood of splashing or spraying liquid. Contact lenses should not be worn. Eye wash water should be provided.

**OTHER:** Use good personal hygiene practices.

**PERSONAL PROTECTIVE CLOTHING OR EQUIPMENT:** Gloves, Hardhat, Face Shield, Boots, Safety Glasses, Respirator, Fire Retardant Clothing

**PERSONAL PROTECTIVE EQUIPMENT IN CASE OF A LARGE SPILL:** Splash goggles, full suit, vapor respirator, boots and gloves. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

### Established Occupational Exposure Limits

SUBSTANCE	VALUE	TIME/TYPE	SOURCE
Diesel Fuel No. 2	100 mg/m3	8 hour TWA	NIOSH
Nonane	200 ppm	8 Hour PEL	ACGIH
Naphthalene	10 ppm	8 hour TWA	OSHA
Naphthalene	15 ppm	15 min STEL	NIOSH

Consult local authorities for acceptable exposure limits.



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## SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

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PHYSICAL STATE:	Liquid
COLOR:	Varies, clear, yellow (pale to straw), greenish-yellow, red, green color.
ODOR:	Faint Petroleum Odor
BOILING POINT:	150 to 360°C (300 to 680°F)
FREEZING POINT:	Not Established
SPECIFIC GRAVITY:	0.84 to 0.88 (Water = 1) (@ 60°F)
VISCOSITY:	3 cSt @ 40°C
VAPOR PRESSURE:	Not Determined
VAPOR DENSITY:	>1 (Air=1)
EVAPORATION RATE:	Not Available



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## SECTION 10: STABILITY & REACTIVITY

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MATERIALS TO AVOID:	Reacts with strong oxidizing material and strong acids.
STABILITY & REACTIVITY:	The product is stable
INCOMPATIBILITY WITH VARIOUS SUBSTANCES:	Reactive with strong oxidizing agents and strong acids
HAZARDOUS DECOMPOSITION PRODUCTS:	Burning or excessive heating may produce carbon monoxide and other harmful gases and vapors including oxides and/or other compounds of sulfur and nitrogen.
HAZARDOUS POLYMERIZATION:	Will not occur
CONDITIONS TO AVOID (STABILITY):	Heat, sparks and/or open flame Strong oxidizers and strong acids.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### TOXICITY DATA

Diesel is a complex blend of hydrocarbons derived from various refinery streams. At high levels of exposure, humans experience multiple organ failures. Long-term repeated skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents.

Diesel also contains naphthalene, which has been classified as a Group 2B carcinogen by the International Agency for Research on Cancer (IARC).

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## SECTION 12: ECOLOGICAL INFORMATION

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ECOLOGICAL INFORMATION:	This product is potentially toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.
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## SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL:	<p>The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.</p> <p>Waste material should be properly characterized to make a correct determination of waste classification. Along with properly characterizing all waste materials, consult EPA, state and local regulations regarding the proper disposal of this material.</p> <p>Consult your local or regional authorities.</p>
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## SECTION 14: TRANSPORT INFORMATION

REGULATORY INFORMATION	ID NUMBER	EMERGENCY RESPONSE GUIDEBOOK	PROPER SHIPPING NAME	CLASS	PACKING GROUP
DOT Classification	NA1993	Guide 128	Fuel Oil	3	III
IATA/ICAO	UN1202	Guide 128	Diesel Fuel	3	III

## SECTION 15: REGULATORY INFORMATION

### U.S. FEDERAL REGULATIONS:

**CARCINOGEN IDENTIFICATION:** This mixture may contain chemicals that have been identified as a carcinogen by NTP, IARC or OSHA

**EXTREMELY HAZARDOUS SUBSTANCES FOR EMERGENCY RESPONSE & PLANNING 40 CFR 355 & 40 CFR 370:** None

**TOXIC CHEMICALS FOR EMISSION REPORTING (SARA 313)** None – No toxic chemical is present greater than 1% or 0.1% carcinogen.

### **EPA SARA Sections 302, 304, & 313 and CERCLA:**

This material contains the following chemicals subject to the reporting requirements of SARA 302, SARA 304, SARA 313, CERCLA and 40 CFR 372:

CHEMICAL NAME	CAS NUMBER	MATERIAL CONCENTRATION	CERCLA/SARA SECTION 302 TPQ (LBS.)	CERCLA/SARA SECTION 304 RQ (LBS.)
NAPHTHALENE	91-20-3	0 -0.5%		100

### **EPA SARA 311/312 TITLE III HAZARD CATEGORIES:**

Acute Health Hazard:	Yes
Chronic Health Hazard:	Yes
Fire Hazard:	Yes
Pressure Hazard:	No
Reactive Hazard:	No

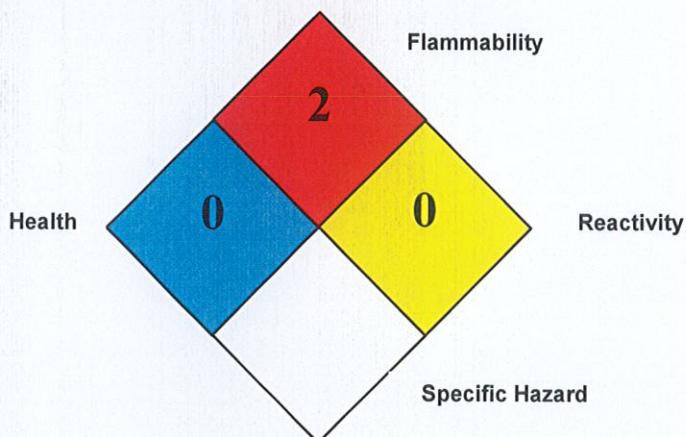


## SECTION 16: OTHER INFORMATION

HAZARDOUS MATERIAL  
INFORMATION SYSTEM  
(USA):

HMIS III		
HEALTH	*	1
FLAMMABILITY		2
PHYSICAL HAZARD		0
PERSONAL PROTECTION		

NATIONAL FIRE  
PROTECTION  
ASSOCIATION (USA):



### DISCLAIMER:

The information in this MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS ACCURACY OR CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**





- Made by pure virgin pulp
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- Manufactured under Quality and Environment Management System registered to ISO 9001 and ISO 14001.

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ISO 14001 و ISO 9001

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# AJA Registrars Europe S.r.l.

**PEFC Certification – Chain of Custody**

**AJAEU/PEFC/15/00068**

Certification's Level: Multisite

This is to certify that

**PT RIAU ANDALAN PULP AND PAPER**

Sites according to n.12 annexes

Legal Representative: **Tony Wenas**

Scope of Certification: **Pulp and Paper mill and traders of rough wood, wood chips, pulp and paper**

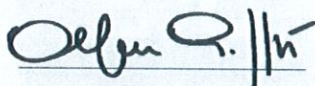
Complies with: **IFCC ST 2002-1:2013  
PEFC ST 2002:2013**

Chain of Custody Approach: **Physical Separation and Percentage Based**

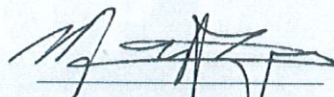
Original Registration Date: 25/05/2015

Expiring Date: 24/05/2020

Renewed on: 1-03/06/2015



Alfonso Pagliuca  
Chief Executive



Mario Belgamin  
Products and Special Projects Director



PRD N° 176 B

Membro degli Accordi di Mutuo Riconoscimento  
EA, IAF e ILAC

Signatory of EA, IAF and ILAC  
Mutual Recognition Agreements



PEFC/39-44-02



IFCC/39-44-02

AJA Registrars Europe S.r.l. - info@ajaregistrars.it - www.ajaeurope.eu  
Via delle Arti, 123 - 00054 Fiumicino (RM) Italy - Corso Vittorio Emanuele II, 82 - 10121 Torino (TO) Italy



# AJA Registrars Europe S.r.l.

## PEFC Certification – Chain of Custody

Annex to Certificate No. **AJAEU/PEFC/15/00068** issued 25 May 2015

*This Schedule is stating the sites included in the Certificate issued for:*

### PT RIAU ANDALAN PULP AND PAPER

#### Pulp Producers:

PT. Riau Andalan Pulp and Paper  
Pangkalan Kerinci, PO Box 1080, Pekanbaru, Riau, Sumatra, 28000 Indonesia

PT. Intiguna Primatama (pulp lines Kerinci)  
Pangkalan Kerinci, PO Box 1080, Pekanbaru, Riau, Sumatra, 28000 Indonesia

#### Paper Producers:

PT. Riau Andalan Kertas (paper lines Kerinci)  
Pangkalan Kerinci, PO Box 1080, Pekanbaru, Riau, Sumatra, 28000 Indonesia

PT. Anugrah Kertas Utama (paper lines Kerinci)  
Pangkalan Kerinci, PO Box 1080, Pekanbaru, Riau, Sumatra, 28000 Indonesia

#### Sales Administration Offices:

Alkira Trading (Macao Commercial Offshore) Limited  
Avenida Doutor Mario Soares, s/n Edificio Finance and IT Center of Macao, 10 andar A1 em Macau

AP Enterprises (Macao Commercial Offshore) Limited  
Avenida Doutor Mario Soares, s/n Edificio Finance and IT Center of Macao, 10 andar K2 em Macau

April Fine Paper (Macao Commercial Offshore) Limited  
Avenida Doutor Mario Soares, s/n Edificio Finance and IT Center of Macao, 10 andar A2 em Macau

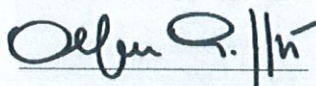
April Fine Paper Trading Pte. Limited  
80 Raffles Place, #50-01 UOB Plaza 1, Singapore 048624

Primeyield Enterprise Pte. Limited  
80 Raffles Place, #50-01 UOB Plaza 1, Singapore 048624

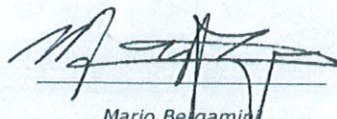
Far East Trading (Macao Commercial Offshore) Limited  
Avenida Doutor Mario Soares, s/n Edificio Finance and IT Center of Macao, 10 andar E em Macau

Greenpoint Global Trading (Macao Commercial Offshore) Limited  
Avenida Doutor Mario Soares, s/n Edificio Finance and IT Center of Macao, 10 andar F em Macau

APEL Enterprises (Singapore) Pte. Limited  
80 Raffles Place, #50-01 UOB Plaza 1, Singapore 048624



Alfonso Pagliuca  
Chief Executive



Mario Belgamin  
Products and Special Projects Director



PRD N° 176 B

Membro degli Accordi di Mutuo Riconoscimento  
EA, IAF e ILAC

Signatory of EA, IAF and ILAC  
Mutual Recognition Agreements





# Rainforest Alliance

Envelope

## OBEIKAN PAPER INDUSTRIES CO.

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P.O.BOX: 355010, RIYADH, 11383  
SAUDI ARABIA

### IS CERTIFIED FOR FOREST STEWARDSHIP COUNCIL™ CHAIN OF CUSTODY

#### Certificate Scope

**Certificate Type:** Single Chain of Custody

**Standard(s):** FSC-STD-40-004 V2-1; FSC-STD-40-007 V2-0

**Product group(s):** Coated paperboard

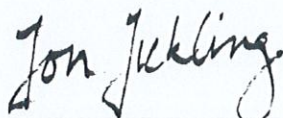
**Valid from December 18, 2013 to December 17, 2018**

**Certificate Registration Code:** RA-COC-006731

**FSC License Code:** FSC-C117840

**Certificate Issue Number:** IN-2013-1

Additional details regarding the scope, including a full list of products and species, are available at [info.fsc.org](http://info.fsc.org).



Jon Jickling, Director, Certification  
Rainforest Alliance  
233 Broadway, 28th Floor New York, NY 10279 USA

**RAINFOREST ALLIANCE IS AN FSC® ACCREDITED CERTIFIER**

The validity of this certificate shall be verified on [info.fsc.org](http://info.fsc.org). This certificate does not constitute evidence that a particular product supplied by the certificate holder is FSC certified and/or FSC Controlled Wood. Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC claim is clearly stated on invoices and shipping documents.

*This certificate is the property of Rainforest Alliance. This certificate and all copies or reproductions of this certificate shall be returned or destroyed if requested by Rainforest Alliance.*

Version July 2013



The mark of  
responsible forestry





# CERTIFICATE

CERTIFICATION CODE: CU-PEFC-822061

Field of attention:  
PEFC - Chain of Custody

Issued to:  
**PT Pindo Deli Pulp and Paper Mills**  
**Karawang 41361, INDONESIA**  
**Project in: INDONESIA**

Standard:  
The COC requirements of the PEFC Council Technical Document as set by the PEFC Council (Programme for the Endorsement of Forest Certification schemes), and Control Union Certifications (CU) Inspection Regulations.  
PEFC ST 2002:2013

**Valid until: 07 February 2018**

Control Union Certifications declares to have inspected the process of Chain of Custody of forest based products of the above mentioned client, and has found it in accordance with the requirements mentioned above.

The product(s) resulting from this process as well as the applicable material input(s) and method(s) applied are mentioned in the authenticated Annex of this certificate.

This certificate is in force until further notice, provided that the above-mentioned client continues meeting the conditions as laid down in the client contract with Control Union Certifications. Based on the annual inspections that Control Union Certifications performs, this certificate is updated and kept into force.

Date of certification:  
08 February 2013  
Place and date of issue:  
Colombo-07, 13 May 2014

CERTIFICATE No: C822061CU-PEFC-01.2014  
REGISTRATION No: CU 822061



Declared by:

On behalf of the Managing Director

Mr. S Nigamuni

Certifier  
Control Union Certifications  
Meeuwenlaan 4-6  
8011 BZ ZWOLLE  
The Netherlands  
<http://www.controlunion.com>  
tel.: +31(0)38-4260100







Annex to  
CERTIFICATION CODE: CU-PEFC-822061  
PEFC - Chain of Custody  
The COC requirements of the PEFC Council Technical Document

as set by the PEFC Council (Programme for the Endorsement of Forest Certification schemes), and  
Control Union Certifications (CU) Inspection Regulations.

PT Pindo Deli Pulp and Paper Mills  
Desa Kuta Mekar BTB 6-9 ,  
Karawang 41361  
INDONESIA

Products

Product no.	Name of product	Material input and method applied	Processing unit(s)
P 024899	7013 Uncoated woodfree	Forest based materials, percentage based	PRC 035488
P 024829	7014 Coated papers	Forest based materials, percentage based	PRC 035488
P 024830	7020 Household and sanitary paper	Forest based materials, percentage based	PRC 035488
P 024835	7033 Wrapping papers	Forest based materials, percentage based	PRC 035488
P 024837	7040 Other paper and paperboard	Forest based materials, percentage based	PRC 035488
P 024838	7050 Converted paper products	Forest based materials, percentage based	PRC 035488

Processing units

Unit no.	Name of unit	Unit ref.	Address	Processes
PRC 035488	PT Pindo Deli Pulp and Paper Mills - Karawang	D-01	Desa Kuta Mekar BTB 6-9 , Karawang 41361, Jawa Barat INDONESIA	Manufacturing and sales of paper, board and tissue







Annex to  
CERTIFICATION CODE: CU-PEFC-822061  
PEFC - Chain of Custody  
The COC requirements of the PEFC Council Technical Document

as set by the PEFC Council (Programme for the Endorsement of Forest Certification schemes), and  
Control Union Certifications (CU) Inspection Regulations.

This certificate including the annex remains property of Control Union Certifications and can be withdrawn in case of terminations as mentioned in the licensee contract, or in case changes or deviations of the above mentioned data occur. The licensee is obliged to inform Control Union Certifications immediately of any changes in the above mentioned data. Only an original and signed certificate is valid.

Date of certification:  
08 Feb 2013

Place and date of issue:  
Colombo-07, 13 May 2014

Authenticated by

On behalf of the Managing Director  
Mr. S Nigamuni  
Certifier

**This certificate cannot be used as guarantee certificate for delivered goods!**







الهيئة السعودية للمواصفات والمقاييس والجودة  
Saudi Standards, Metrology and Quality Org.

شهادة ترخيص باستعمال شعار البلاستيك القابل للتحلل  
License For Use of The Biodegradable Plactic Logo

License No.:

3-000004030091307274490-1438

رقم الترخيص:

SASO certifies that:

تشهد الهيئة السعودية للمواصفات والمقاييس والجودة بأنها رخصت لـ:

Company Name:

United plastic  
products co.Ltd

الشركة المتحدة لمنتجات البلاستيك - فرع  
الشركة الوطنية لمنتجات الورق

اسم الشركة:

Address:

Jeddah - Industrial region

جدة - المدينة الصناعية

العنوان:

Grant the right to use Biodegradable Plactic Logo:

باستعمال شعار البلاستيك القابل للتحلل على منتجاتها التالية:

Courier and Security bags

أكياس الأمانات والطرود البريدية

After fulfilling the required requirements  
according to the normative documents:

بعد استيفائها للمتطلبات اللازمة  
وفق المراجع القياسية التالية:

اللائحة الفنية للمنتجات البلاستيكية القابلة للتحلل

م.إ. ١٥٦-١٦-٣-٠٣

Date of issue:

14/11/1438AH

١٤٣٨/١١/١٤ هـ

بداية تاريخ المنح:

Date of renewal:

00/00/0000AH

٠٠٠٠/٠٠/٠٠ هـ

تاريخ التجديد:

Date of expiry:

13/11/1439AH

١٤٣٩/١١/١٣ هـ

تاريخ الانتهاء:

نائب محافظ الهيئة للمطابقة والجودة  
Deputy Governor of Conformity and Quality Affairs

المهندس / سعود راشد العسكر  
En. Saud R. AlAskar



www.saso.gov.sa نخضع هذه الشهادة خلال مدة سريانها للأنظمة واللوائح ذات العلاقة في المملكة العربية السعودية وأي تعديلات تصدرها الهيئة.

ص.ب ١٣٤٣٧ الرياض ١١٤٧١ المملكة العربية السعودية هاتف: +٩٦٦١١٣٥٠٩١٦٦ فاكس: +٩٦٦١١٤٥٠١٠٠٨١

DO: 0437 P: 0437 M: 0437 KSA Tel: +966113509666 Fax: +966114501008



---

## Mohammed Altamush Khan

**From:** Ammar Taj Othman  
**Sent:** Sunday, October 15, 2017 10:30 AM  
**To:** Mohammed Altamush Khan  
**Subject:** FW: Quotation  
**Attachments:** Biodegradable Certification United Plastics Products.png

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

FYI

---

**From:** Bachar Kobaissi <Bachar.Kobaissi@napcogroup.com>  
**Sent:** Wednesday, October 4, 2017 6:13 AM  
**To:** amar0085@hotmail.com  
**Cc:** Ammar Taj Othman  
**Subject:** FW: Quotation

Re-send.

Regards,  
Bachar Kobaissi

---

**From:** Bachar Kobaissi  
**Sent:** Tuesday, October 3, 2017 10:10 AM  
**To:** Ammar Taj Othman  
**Cc:** Emad Anwar (eanwar@smsaexpress.com); George Saba  
**Subject:** Quotation

Dear Ammar,

Kindly find attached the requested quotation for Flyer Bag & Baby Bag (regular & Oxo-biodegradable material).

Attached our SASO certification for your kind reference.

Regards,  
Bachar Kobaissi







Middle East Food Solutions Company  
Limited Liability Company  
Capital paid S.R. 166.000.000  
C.R. No. 1010372926



شركة الشرق الأوسط لحلول الأغذية  
شركة ذات مسؤولية محدودة  
رأس المال المدفوع ١٦٦,٠٠٠,٠٠٠ ريال  
س.ت: ١٠١٠٣٧٢٩٢٦

### LETTER OF GUARANTEE

We Middle East Food Solutions Company (MEFSCO), based in Riyadh - KSA are supplying Easternpak with Corn Starch Powder (Industrial Grade) as per defined specifications and according to high standard using good manufacturing practices (GMP), appropriate storage conditions and transportation.

We are certified with ISO-22000:2005 .

We guarantee best quality and food safety of supplied products and work for long term relationship with our clients.

Date: 3<sup>rd</sup> May, 2017

Signature of Authorized Representative

Product Supplied: Corn Starch

Name and Title

Mahmoud B. Salih - Category Sales Manager







شركة منتجات الأصباغ المحدودة  
INK PRODUCTS CO.LTD.



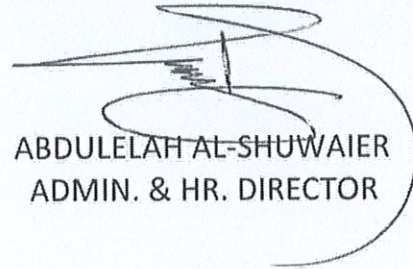
### LETTER OF GUARANTEE

We INK PRODUCTS CO.LTD, based in RIYADH-KSA are supplying Easternpak with Water based Color Concentrates, OPV and Technology Varnishes as per our IPCL (License from Sun Chemicals) defined specifications and according to high standard using good manufacturing practices, appropriate storage and transportation.

We guarantee best quality of supplied products and work for long term relationship with our clients.

Date: 19-03-2017

Signature of Authorized Representative

  
ABDULELAH AL-SHUWAIER  
ADMIN. & HR. DIRECTOR

Products Supplied:

Water based Color concentrates  
Over Print Varnishes  
Technology Varnishes





# FSC® CHAIN OF CUSTODY CERTIFICATE

Certificate No:  
DNV-COC-001087

Initial certification date:  
01 June, 2005

Validity end date:  
31 May, 2020

The validity of this certificate shall be verified on [www.info.fsc.org](http://www.info.fsc.org).

This is to certify that

**LEIPA Georg Leinfelder GmbH**

Kuhheide 34, D-16303 Schwedt, Germany

has been found to conform to FSC standard(s):

**FSC-STD-40-004 ver 2.1, FSC-STD-40-007 ver 2.0**

This certificate is valid for the following Scope:

Purchasing of recovered paper (post and pre consumer reclaimed material),  
production and marketing of magazine paper and testliner (FSC recycled), credit  
system. Control of outsourced services (cutting to size).

A list of the certificated products can be obtained from the FSC database, [www.info.fsc.org](http://www.info.fsc.org).

This certificate itself does not constitute evidence that a particular product supplied by the certificate holder is FSC-certified (or FSC Controlled Wood). Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC claim is clearly stated on invoices and shipping documents.

Place and date:  
Solna 08 June, 2015



**FSC**

ACCREDITED  
FSC-ACC-022

FSC® Trademark 1996  
Forest Stewardship Council A.C.  
cert. 11111111

For the issuing office:  
DNV GL - Business Assurance  
Sweden AB

Ann-Louise Pätt  
Management Representative



**BUREAU VERITAS**  
Certification



# CERTIFICATE

Number: **BV-COC-897631**  
**BV-CW-897631**

Issued: **July 30<sup>th</sup> 2013**  
Valid until: **July 29<sup>th</sup> 2018**

Bureau Veritas Certification certifies that the company:

## **METSÄLIITTO COOPERATIVE**

has implemented a FSC product groups control system according to the Forest Stewardship Council certification system, in the following location:

**METSÄLIITTO COOPERATIVE**  
REVONTULENPUISTO 2  
02100 – ESPOO – FINLAND

for its activities concerning:

**Wood procurement, trading and manufacturing of wood products  
certified FSC 100%, FSC Mix and FSC Controlled Wood \***

\* Updated list of products & species on the FSC database ([www.info.fsc.org](http://www.info.fsc.org))

All sites included in the scope of this certificate are listed in annex.

This company has been assessed and found to conform to the requirements of the:

**FSC CoC Multi-site Certification standard, Ref.: FSC-STD-40-003, v. 1.0**  
**FSC Chain of Custody standard, Ref.: FSC-STD-40-004, v. 2.1**  
**FSC CoC Controlled Wood standard, Ref.: FSC-STD-40-005, v. 2.1**

This certificate is valid for a 5 years period.

Paris La Défense, **January 07<sup>th</sup> 2015**

Bureau Veritas Certification France Wood Forest Department Head

**Antoine HUGUET**

The validity of this certificate shall be verified on: [www.info.fsc.org](http://www.info.fsc.org)

This certificate itself does not constitute evidence that a particular product supplied by the certificate holder is FSC-certified or FSC Controlled Wood. Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC claim is clearly stated on invoices and shipping documents.

Accredited office: Bureau Veritas Certification Holding, 67/71 Boulevard du Château, 92200 Neuilly sur Seine, France: [www.bureauveritas.com](http://www.bureauveritas.com)  
FSC<sup>TM</sup> accredited certification body Accreditation Code: FSC-ACC-020

Certification decision office: Bureau Veritas Certification France, 60, avenue du Général de Gaulle, 92046 Paris La Défense Cedex, France

Management office: Bureau Veritas Certification Finland

A list of the products or services that are included in the scope of the certificate may be obtained on request to Bureau Veritas Certification.

This certificate remains the property of Bureau Veritas Certification, all copies or reproductions and the certificate itself shall be returned or destroyed on Bureau Veritas request.



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**BUREAU VERITAS**  
Certification



## **ANNEXE n° I/III**

### ***Metsäliitto Cooperative, Metsä Forest***

**BV-COC-897631A – 30/07/2013**

FI - 02100 Espoo, Revontulenpuisto 2 - Finland

***Wood procurement and trading of wood products***

### ***Metsä Forest Eesti AS***

**BV-COC-897631B – 30/07/2013**

Katusepapi 4, EE -11412 Tallinn, Estonia

***Wood procurement and trading of wood products***

### ***SIA Metsa Forest Latvia***

**BV-COC-897631C – 30/07/2013**

Vienibas gatve 87E, LV -1004 Riga, Latvia

***Wood procurement and trading of wood products***

### ***Metsä Forest Sverige AB***

**BV-COC-897631D – 30/07/2013**

Husum Mill, SE - 896 80 Husum, Husum Mill, Sweden

***Wood procurement and trading of wood products***

### ***OOO Metsa Forest Saint Petersburg***

**BV-COC-897631E – 30/07/2013**

RU - 190103 St. Petersburg, 10 – Krasnoarmejskaja ul, 22, Russia

***Wood procurement and trading of wood products***

### ***OOO Metsa Forest Podporozhye***

**BV-COC-897631F – 30/07/2013**

RU - 187780 Podporozhye, Leningradskaya obl., Pr. Lenina 53-A, Russia

***Wood procurement and trading of wood products***

### ***Metsäliitto Cooperative, Metsä Wood***

#### ***Eskola Sawmill***

**BV-COC-897631G – 30/07/2013**

Laanitie 6, FI-69150 Eskola, Finland

***Manufacturing of wood products***



**BUREAU VERITAS**  
Certification



**ANNEXE n° II/III**

**Metsäliitto Cooperative, Metsä Wood  
Kyrö Sawmill**

Kyröntie 3 – FI - 21801 Kyrö, Finland

**Manufacturing of wood products**

BV-COC-897631I – 30/07/2013

**Metsäliitto Cooperative, Metsä Wood  
Lappeenranta Sawmill**

FI - 53920 Lappeenranta, Finland

**Manufacturing of wood products**

BV-COC-897631J – 30/07/2013

**Metsäliitto Cooperative, Metsä Wood  
Merikarvia Sawmill**

Satamatie 35, FI - 29900 Merikarvia, Finland

**Manufacturing of wood products**

BV-COC-897631K – 30/07/2013

**Metsäliitto Cooperative, Metsä Wood  
Renko Sawmill**

Sahantie 50, FI - 14300 Renko, Finland

**Manufacturing of wood products**

BV-COC-897631L – 30/07/2013

**Metsäliitto Cooperative, Metsä Wood  
Vilppula Sawmill**

Sahatie, FI - 35700 Vilppula, Finland

**Manufacturing of wood products**

BV-COC-897631M – 30/07/2013

**Metsäliitto Cooperative, Metsä Wood  
Kerto mill Lohja**

Tehtaankatu 1, FI - 08101 Lohja, Finland

**Manufacturing of wood products**

BV-COC-897631O – 30/07/2013



**BUREAU VERITAS**  
Certification



**ANNEXE n° III/III**

***Metsäliitto Cooperative, Metsä Wood***

***Kerto mill Punkaharju***

Tehtaantie 18, FI-58501 Punkaharju, Finland

***Manufacturing of wood products***

**BV-COC-897631P – 30/07/2013**

***Metsäliitto Cooperative, Metsä Wood***  
***Suolahti Plywood***

Vaneritehtaantie, FI - 44201 Suolahti, Finland

***Manufacturing of wood products***

**BV-COC-897631Q – 30/07/2013**

***Metsäliitto Cooperative, Metsä Wood***  
***Punkaharju Plywood mill***

Tehtaantie 18, FI-58501 Punkaharju, Finland

***Manufacturing of wood products***

**BV-COC-897631R – 30/07/2013**

***Metsäliitto Cooperative, Metsä Wood***

***Kaskinen upgrading***

Puutavarantie, FI-64260 Kaskinen, Finland

***Manufacturing of wood products***

**BV-COC-897631T – 30/07/2013**

***Metsäliitto Cooperative, Metsä Wood***

***Metsä Svir Sales***

Kantatie 191, FI - 64260 Kaskinen, Finland

***Trading of wood products***

**BV-COC-897631U – 30/07/2013**



**BUREAU VERITAS**  
Certification



# CERTIFICATE

Number: **BV-COC-176295**  
**BV-CW-176295**

Issued the: **05 May 2015**  
Valid until: **04 May 2020**

Bureau Veritas Certification certifies that the company:

## **WESTROCK MWV, LLC**

has implemented a FSC product groups control system according to the Forest Stewardship Council certification system, in the following location:

**WESTROCK MWV, LLC**  
501 South Fifth St.  
23219 – RICHMOND, VIRGINIA – USA

for its activities concerning:

### **Integrated converting facility of wood/paper fiber \***

\* Updated list of products & species on the FSC database ([www.info.fsc.org](http://www.info.fsc.org))

All sites included in the scope of this certificate are listed in annex.

This company has been assessed and found to conform to the requirements of the:

**FSC CoC Certification of Multiple Sites standard, Ref.: FSC-STD-40-003 V2-1**  
**FSC Chain of Custody Certification standard, Ref.: FSC-STD-40-004 V2-1**  
**FSC CoC Controlled Wood standard, Ref.: FSC-STD-40-005 V2-1**  
**FSC CoC Sourcing Reclaimed Material standard, Ref.: FSC-STD-40-007 V2-0**

This certificate is valid for a 5 years period.

Houston, TX, **March 15, 2016**

Bureau Veritas Certification North America  
Technical Department Supervisor

**Alyssa L. MacDonald**

The validity of this certificate shall be verified on: [www.info.fsc.org](http://www.info.fsc.org)

This certificate itself does not constitute evidence that a particular product supplied by the certificate holder is FSC-certified or FSC Controlled Wood. Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC claim is clearly stated on invoices and shipping documents.

The certificate holder central office shall not issue any self-made certificates or declarations to their participating sites that could be mistaken as formal FSC certificate.

**Accredited office:** Bureau Veritas Certification Holding, 67/71 Boulevard du Château, 92200 Neuilly sur Seine, France: [www.bureauveritas.com](http://www.bureauveritas.com)  
FSC™ accredited certification body Accreditation Code: FSC-ACC-020

**Certification decision office:** Bureau Veritas Certification North America, 390 Benmar Dr, Houston, TX 77060, USA

**Management office:** Bureau Veritas Certification USA

A list of the products or services that are included in the scope of the certificate may be obtained on request to Bureau Veritas Certification.

This certificate remains the property of Bureau Veritas Certification, all copies or reproductions and the certificate itself shall be returned or destroyed on Bureau Veritas Certification request.



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responsible forestry**



**BUREAU VERITAS**  
Certification



## **ANNEX n° III**

### ***Richmond, Virginia***

**BV-COC-176295-A – 5 May 2015**

501 South 5th Street, Richmond, VA 23219  
***Headquarters***

---

### ***Covington, Virginia mill***

**BV-COC-176295-B – 5 May 2015**

104 East Riverside Street, Covington, VA 24426  
***Integrated converting facility of wood/paper fiber***

---

### ***Evadale, Texas mill***

**BV-COC-176295-C – 5 May 2015**

1913 FM 105 South ; Evadale TX 77615  
***Integrated converting facility of wood/paper fiber***

---

### ***Marht, Alabama mill***

**BV-COC-176295-D – 5 May 2015**

Hwy 165 South ; Cottonton, AL 36851  
***Integrated converting facility of wood/paper fiber***

---





الهيئة السعودية للمواصفات والمقاييس والجودة  
Saudi Standards, Metrology and Quality Org.

شهادة ترخيص باستعمال شعار البلاستيك القابل للتحلل  
License For Use of The Biodegradable Plactic Logo

License No.:

3-000004030091307274490-1438

رقم الترخيص:

SASO certifies that:

تشهد الهيئة السعودية للمواصفات والمقاييس والجودة بأنها رخصت ل:

Company Name:

United plastic

الشركة المتحدة لمنتجات البلاستيك - فرع

اسم الشركة:

products co.Ltd

الشركة الوطنية لمنتجات الورق

Address:

Jeddah - Industrial region

جدة - المدينة الصناعية

العنوان:

I want the right to use Biodegradable Plactic Logo:

باستعمال شعار البلاستيك القابل للتحلل على منتجاتها التالية:

Courier and Security bags

أكياس الأمانات والطرود البريدية

After fulfilling the required requirements  
according to the normative documents:

بعد استيفائها للمتطلبات اللازمة  
وفق المراجع القياسية التالية:

اللائحة الفنية للمنتجات البلاستيكية القابلة للتحلل

م.إ. ١٥٦-١٦-٣-٠٣

Date of issue:

14/11/1438AH

١٤٣٨/١١/١٤ هـ

بداية تاريخ المنح:

Date of renewal:

00/00/0000AH

٠٠٠٠/٠٠/٠٠ هـ

تاريخ التجديد:

Date of expiry:

13/11/1439AH

١٤٣٩/١١/١٣ هـ

تاريخ الانتهاء:

نائب محافظ الهيئة للمطابقة والجودة  
Deputy Governor of Conformity and Quality Affairs

المهندس/ سعود راشد العسكر  
En. Saud R. Al Askar





## **Mohammed Altamush Khan**

---

**From:** Ammar Taj Othman  
**Sent:** Sunday, October 15, 2017 10:30 AM  
**To:** Mohammed Altamush Khan  
**Subject:** FW: Quotation  
**Attachments:** Biodegradable Certification United Plastics Products.png

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**FYI**

---

**From:** Bachar Kobaissi <Bachar.Kobaissi@napcogroup.com>  
**Sent:** Wednesday, October 4, 2017 6:13 AM  
**To:** amar0085@hotmail.com  
**Cc:** Ammar Taj Othman  
**Subject:** FW: Quotation

Re-send.

Regards,  
Bachar Kobeissi

---

**From:** Bachar Kobaissi  
**Sent:** Tuesday, October 3, 2017 10:10 AM  
**To:** Ammar Taj Othman  
**Cc:** Emad Anwar (eanwar@smaexpress.com); George Saba  
**Subject:** Quotation

Dear Ammar,

Kindly find attached the requested quotation for Flyer Bag & Baby Bag (regular & Oxo-biodegradable material).

Attached our SASO certification for your kind reference.

Regards,  
Bachar Kobeissi







## FSC Certified: Castgloss Opaque, Lasergloss and Lasergloss HS

### Sustainable business starts with premium sustainable labelling

UPM Raflatac's FSC Certified combinations meet market demand for environmentally responsible labelling that satisfies the highest quality standards. They also improve over the original products with higher weight, whiteness and brightness.

The new FSC certified Lasergloss and Lasergloss HS are specifically designed for high-speed and high-volume laser printers. They provide optimal performance in the printing process and outstanding image quality.

Castgloss Opaque F Cert MC has a grey reverse side for increased opacity, and covers a wide range of end-uses requiring an excellent high-gloss foundation for premium-quality print work.

- FSC certified from sustainably managed forests
- Higher whiteness and brightness
- Higher substance, mirror-like gloss for highest quality labels

These new products replace existing grades. They will be introduced gradually as existing stock runs out, from May 2011 onwards.

<b>EAN code</b>	<b>Sales code</b>	<b>Combination</b>	<b>Sheet size</b>
7120713	BYS SP34 14 W1	Castgloss Opaque F Cert MC / SP 34 / Kraft Special 90	50 x 70
7120737	BYS SP34 14 W3	Castgloss Opaque F Cert MC / SP 34 / Kraft Special 90	50 x 70
7120140	BXC SP34 66 W0	Lasergloss F Cert MC / SP 34 / Kraft Special 55	45 x 64
7120157	BXC SP34 14 W0	Lasergloss F Cert MC / SP 34 / Kraft Special 90	64 x 45
7121208	BZN SPA3 E1 W0	Lasergloss HS F Cert MC / SP A3 / Kraft Special 90	32 x 45



The mark of responsible forestry



# UPM RAFLATAC TECHNICAL INFORMATION

04/2011 ENG 639

SELF-ADHESIVE	SHEETS
FACE	CASTGLOSS OPAQUE F cert MC
Vacs and Foils	BYS (sales code)
Product	Cast-coated, wood-free paper with grey reverse side to increase the opacity.
Use	For high quality multicolour glossy product labels.

## Typical technical values

Substance	86	g/m <sup>2</sup>	ISO 536	
Caliper	88	µm	ISO 534	
Tensile strength MD	5.3	kN/m	ISO 1924/1	
Tensile strength CD	3.1	kN/m	ISO 1924/1	
Brightness	90	%	ISO 2470/1	
Roughness	0.5	µm	ISO 8791	PPS 10
Opacity	98	%	ISO 2471	
Gloss	90	%	Hunter 75°	

Printability Flexography, letterpress, rotogravure, offset, screen and hot foil.

Approvals Products named as F cert MC are registered to SGS-COC-004879 FSC™ mixed credit.

Warranty Our recommendations are based on our most current knowledge and experience. As our products are used in conditions beyond our control, we cannot assume any liability for damage caused through their use. This publication replaces all previous versions. All information is subject to change without notice.





# UPM RAFLATAC TECHNICAL INFORMATION

04/2011 ENG 639

SELF-ADHESIVE	SHEETS
FACE	LASERGLOSS F cert MC
Vacs and Foils	BXC (sales code)
Product	Cast-coated, wood-free paper with mirror-like gloss finish.
Use	For high quality multicolour copy and laser printing.

## Typical technical values

Substance	84	g/m <sup>2</sup>	ISO 536	
Caliper	86	µm	ISO 534	
Tensile strength MD	5.3	kN/m	ISO 1924/1	
Tensile strength CD	3.1	kN/m	ISO 1924/1	
Brightness	93	%	ISO 2470/1	
Roughness	0.5	µm	ISO 8791	PPS 10
Opacity	90	%	ISO 2471	
Gloss	90	%	Hunter 75°	
CIE Whiteness	130	%	ISO 11475	

Printability Flexography, letterpress, rotogravure, electrophotography, electrography, magnetography, offset, screen and hot foil.

Approvals Products named as F cert MC are registered to SGS-COC-004879 FSC™ mixed credit.

Warranty Our recommendations are based on our most current knowledge and experience. As our products are used in conditions beyond our control, we cannot assume any liability for damage caused through their use. This publication replaces all previous versions. All information is subject to change without notice.





# UPM RAFLATAC TECHNICAL INFORMATION

04/2011 ENG 639

SELF-ADHESIVE	SHEETS
FACE	LASERGLOSS HS F cert MC
Vacs and Foils	BZN (sales code)
Product	Cast-coated, wood-free paper with mirror-like gloss finish.
Use	For high quality multicolour copy and laser printing. Specially developed for medium and high volume laser printers.

## Typical technical values

Substance	84	g/m <sup>2</sup>	ISO 536	
Caliper	86	µm	ISO 534	
Tensile strength MD	5.3	kN/m	ISO 1924/1	
Tensile strength CD	3.1	kN/m	ISO 1924/1	
Brightness	93	%	ISO 2470/1	
Roughness	0.5	µm	ISO 8791	PPS 10
Opacity	90	%	ISO 2471	
Gloss	90	%	Hunter 75°	
CIE Whiteness	130	%	ISO 11475	

**Printability** Laser and copier printable: specially developed for medium and high volumes. Flexography, letterpress, offset, rotogravure, screen and hot foil.

**Approvals** Products named as F cert MC are registered to SGS-COC-004879 FSC™ mixed credit.

**Warranty** Our recommendations are based on our most current knowledge and experience. As our products are used in conditions beyond our control, we cannot assume any liability for damage caused through their use. This publication replaces all previous versions. All information is subject to change without notice.





# UPM Raflatac Technical Information

04.04.2016 ENG 3452

<b>Product</b>	<b>THERMAL ECO 200-FSC / RH9X / HONEY GLASSINE 65</b>		
Sales Code	DZB/RH9X/03		
EAN	6415788211762		
Product use	General purpose non topcoated Thermal Eco label for retail and transport & logistics applications with good convertability, direct thermal printability and initial tack.		
<b>Face</b>	<b>THERMAL ECO 200-FSC</b>		
Product	A non topcoated paper with a standard dynamic sensitivity thermal coating. This face paper is made from FSC™-certified (mix credit) pulp.		
Substance	70	g/m <sup>2</sup>	ISO 536
Caliper	77	µm	ISO 534
Tensile strength MD	4.00	kN/m	ISO 1924/2
Tensile strength CD	2.30	kN/m	ISO 1924/2
Brightness	86	%	ISO 2470
Roughness	2.0	µm	ISO 8791-4 PPS 10
Opacity	90	%	ISO 2471 min
Imaging colour	Black		
Scanning	Visible red light (wavelength up to 650 nm).		
DT printing speed	Direct thermal printing speed up to 200 mm/s.		
Printability	Water based flexography. Direct thermal printing.		
Sustainability	Products named as FMC are registered to SGSCH-COC-004879 FSC™ mix credit.		
<b>Adhesive</b>	<b>RH9X</b>		
Type	Permanent adhesive.		
Composition	Rubber, hotmelt.		
Tack min	12	N	FTM 9
PE-looptack min	10	N	modified FTM 9
<b>Backing</b>	<b>HONEY GLASSINE 65</b>		
Product	Yellow transparent glassine backing paper.		
Substance	57	g/m <sup>2</sup>	ISO 536
Caliper	51	µm	ISO 534
Tensile strength MD	6.2	kN/m	ISO 1924
Tensile strength CD	2.3	kN/m	ISO 1924
Transparency	49	%	DIN 53147
<b>Performance</b>			
Total caliper	142 µm		
Minimum labelling temperature	0 °C		
Service temperature	-40 °C to 60 °C		





Shelf life	From the date of manufacture: 1 year at +20 °C and RH 50%. Prolonged storage at higher temperatures and/or humidity levels will shorten the shelf life.
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#### Information

Product information	General purpose product for retail and transport & logistics applications. Adhesive provides good adhesion to non-polar surfaces. Not suitable for labelling plasticized PVC and the product has limited resistance in wet conditions. Not recommended for adhesive surface printing without testing beforehand.
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#### Approvals

Approvals & Certifications	Please see the individual Declaration of Conformance (DoC) document of each product component for further compliance information.
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Disclaimer	<p>The performance of the product should always be tested in the actual application conditions. Our recommendations are based on our most current knowledge and experience. As our products are used in conditions beyond our control, we cannot assume any liability for damage caused through their use. Users of our products are solely responsible that the product is suitable for its intended application, and have determined such at their sole discretion. Users must comply with any applicable legislation and/or testing requirements for the finished article, and are responsible for bringing their products to market.</p>
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This publication does not constitute any warranty, express or implied, and is intended only for the recipient and cannot therefore be transferred to any third party. We cannot assume any liability for the use of our products in conjunction with other materials.

All our products are sold subject to UPM Raflatac's general sales conditions, and you should ensure that any existing laws are observed.

This publication replaces all previous versions. All information is subject to change without notice.







## 1. IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name : *Corrugated Carton Boxes*  
Type : *Regular Slotted Container (RSC), Die-cut, Specialty oriented products.*  
Manufacturer : *Easternpak*  
*P.o. Box: 9942, Dammam-31423*  
*Tel.: (03) 8121341*  
*Fax: (03) 8121305*

## 2. COMPOSITION AND INGREDIENTS INFORMATION

The Corrugated carton board is a combination of papers (Kraft Liner /Test Liner /Semi-chemical /White top /clay coated) used as Liners and medium and the papers are bonded together by Glue (maize/corn starch). Papers are combined based on the customer specification / requirements. In case of printed, the inks used are water based and lead free ink.

## 3. HAZARD IDENTIFICATION

Corrugated Carton presents NO hazard to man (chemically inert) and environment and the product is highly environmental friendly. However the product presents Fire related hazard as it is paper product.

Extinguishing media: Water, CO<sub>2</sub> and Sand

## 4. HANDLING AND STORAGE

### Handling

- Handle the product on proper size of pallets and use gloves for ensuring safety.
- Care should be always taken to keep the product in dry area.

### Storage

- Store the product in dry atmosphere (heavy moisture may affect the strength of carton box) and shaded area. Avoid keeping under direct Sunlight.
- Ensure no electrical sparks, damaged electrical lining passing through storage area.
- Enough care/ precaution shall be taken if any hot work carried out near storage area.
- Materials of explosive nature should not be stored near carton boxes.
- Keep away from insects as biologically degradable.





## **Material Safety Data Sheet (MSDS)**

### **CORRUGATED CARTON BOXES**

#### **5. DISPOSAL INSTRUCTION**

All Corrugated carton boxes are Recyclable (or burn if allowed by local authorities)

#### **6. FIRST AID MEASURES**

6.1 Inhalation: In the recommended temperature usage range no fumes are evolved from product.

6.2 Skin Contact: Since corrugated carton boxes are chemically inert, they pose NO health risks.

6.3 Ingestion: The form of corrugated products makes it very difficult to be ingested.

#### **7. OTHER INFORMATION**

Always keep the material away from fire, rain, excessive moisture and explosive materials. Do not store the product for long time as it's biologically degradable and affected by environment.

#### **8. DECLARATION**

Information contained in this Material Safety Data Sheet is based entirely on our general experience and is given in good faith but we are unable to accept responsibility in respect of factors which are outside our knowledge, our scope or control.

It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary.



## Mohammed Altamush Khan

---

**From:** Ammar Taj Othman  
**Sent:** Tuesday, October 17, 2017 8:49 AM  
**To:** Mohammed Altamush Khan  
**Subject:** FW: Boxes - Eco Friendly  
**Attachments:** image001.jpg; MSDS 2017.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

FYI

---

**From:** Yogesh Mathew [mailto:Yogesh.Mathew@easternpak.com]  
**Sent:** Tuesday, October 17, 2017 8:28 AM  
**To:** Emad Anwar; Joseph Choueiry  
**Cc:** Ammar Taj Othman; Syed Irfan Ahmed  
**Subject:** RE: Boxes - Eco Friendly

Dear Mr. Emad  
Good Morning

Please find the attached QC document which you had requested  
Also please update the status of our overdue payment & confirm our Cob which I forwarded to you last week

Regards,

*Yogesh Mathew*  
Senior Sales Representative - Central Province

---

**From:** Emad Anwar [mailto:eanwar@smsaexpress.com]  
**Sent:** Monday, October 16, 2017 8:54 AM  
**To:** Yogesh Mathew; Joseph Choueiry  
**Cc:** Ammar Taj Othman; Syed Irfan Ahmed  
**Subject:** Boxes - Eco Friendly

Dear Mr. Yogesh,  
Good Morning !

Can you please confirm regarding the material providing to us if it is Eco Friendly. If yes, then please let us know which chemicals / material has been used to make it Eco.  
We need documented this matter. Please provide related documents for this.



Thanks & Best Regards

**EMAD M. ANWAR**

Purchase Analyst

Purchase Department - HQ

**SM&A** Express Transportation Co. Ltd.

Tel # +966 1 463 3999 Ext 130

Mob # +966 54 4772167

Fax # +966 1 463 3999 Ext 401



 Before printing, please think about the Environment.



August 1, 2012

Dale Larson  
Senior Chemist  
Ecolab, Inc.  
655 Lone Oak Drive  
Eagan, MN 55122



Dear Dale:

I am pleased to inform you that Green Seal has evaluated the following Ecolab, Inc. products and determined that these products comply with the requirements of the Green Seal Standard for Cleaning Products for Industrial & Institutional Use (GS-37, 2011):

Product Name	Product Code	Package Size
Acid Bathroom Cleaner	6100292	2.5 Gallon HDPE
	6100293	2 X 2 L LLDPE Pouch
	6100294	2 X 1.3 L HDPE
Ultra Concentrated Acid Bathroom Cleaner	6100295	2 X 1.3 L HDPE
Facilipro Ultra Concentrated Acid Bathroom Cleaner GS	6100300	2 X 1.3 L HDPE
Glass Cleaner	6100287	2 X 1.3 L HDPE
	6100288	2.5 Gallon HDPE
	6100289	2 X 2 L LLDPE Pouch
	6100290	56 L drum HDPE
Facilipro Glass Cleaner	6100304	2.5 Gallon HDPE
Ultra Concentrated Glass Cleaner	6100291	2 X 1.3 L HDPE
Facilipro Ultra Concentrated Glass Cleaner GS	6100299	2 X 1.3 L HDPE

Accordingly, Ecolab, Inc. is authorized to use the Green Seal Mark in association with these products, provided that no changes are made in the way the products are manufactured or represented.

This certification remains valid until such time your products are no longer subject to a valid certification agreement, or that Green Seal has reason to believe, based on the results of our ongoing monitoring program or otherwise, that your products no longer comply with GS-37 (2011).

As a reminder, any use of the Green Seal Mark or reference to Green Seal needs to be approved by Green Seal and conform to the Rules Governing the Use of the Green Seal Certification Mark. To get the most benefit from your Green Seal certification, we encourage you to contact a member of our Marketing & Communications department at

**HEADQUARTERS**

1001 Connecticut Ave NW, Ste 827  
Washington, DC 20036-5525

**SOUTHEAST OFFICE**

374 Siouan Drive  
Lexington, NC 27295-8571

**MIDWEST OFFICE**

517 North Segoe Road, Ste 211  
Madison, WI 53705-3172

phone: 202.872.6400 fax: 202.872.4324 [www.greenseal.org](http://www.greenseal.org)

THE ORIGINAL GREEN SEAL OF APPROVAL SINCE 1989



[marketing@greenseal.org](mailto:marketing@greenseal.org). They can help support you in promoting and effectively communicating your certification with a range of graphics and tools.



Congratulations on this certification for Ecolab, Inc. We look forward to continuing this relationship.

Sincerely,

Arthur B. Weissman, Ph.D.  
President & CEO

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# Green Seal™, Inc. Proudly Presents Certification to

## Ecolab, Inc.

Green Seal™, Inc. certifies that the following products comply with the Green Seal Standard for Cleaners for Industrial and Institutional Use (GS-37, 2011) and are licensed to use the Green Seal Certification Mark:

Acid Bathroom Cleaner ♦ Ultra Concentrated Acid Bathroom Cleaner  
Facilipro Ultra Concentrated Acid Bathroom Cleaner GS ♦ Glass Cleaner  
Facilipro Glass Cleaner ♦ Ultra Concentrated Glass Cleaner  
Facilipro Ultra Concentrated Glass Cleaner GS

(specific package sizes listed in certification letter)

Certified this 1<sup>st</sup> day of August, 2012.

A handwritten signature in black ink, appearing to read "A. Weissman", is written over a horizontal line.

Arthur B. Weissman, Ph.D., President & CEO



February 25, 2015

Kristen Mills  
Principle Chemical Engineer  
Ecolab  
655 Lone Oak Drive  
Eagan, MN 55121



Dear Kristen,

I am pleased to inform you that Green Seal has evaluated the nearly identical product application from Ecolab and determined that these products comply with the requirements of the Green Seal Standard for Hand Cleaners for Industrial and Institutional Use (GS-41A):

Product Name	Original Product	Product Code	Package Size
Facililpro Mild Foaming Hand Soap	DigiClean Mild Foam Hand Soap	14671	6 X 750 ml HDPE
		6100238	2 X 1600ml HDPE
		6100710	2 x 1250mL
Foam Hand Soap	DigiClean Mild Foam Hand Soap	6100122	2 X 1600ml HDPE
		6100404	4 X 1200ml HDPE
		6100708	6 x 750mL
		6100709	4 x 1250mL
Keystone Foam Hand Soap	DigiClean Mild (23671)	6100750	4 x 750mL
Clean & Smooth	Clean & Smooth (15875)	6100706	6 x 750mL
	Clean & Smooth (15875)	6100707	4 x 1250mL

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Madison, WI 53705-3172

phone: 202.872.6400 fax: 202.872.4324 [www.greenseal.org](http://www.greenseal.org)



Accordingly, Ecolab is authorized to use the Green Seal Mark in association with these products, provided that no changes are made in the way the products are manufactured or represented.

This certification remains valid until such time your products are no longer subject to a valid certification agreement, or that Green Seal has reason to believe, based on the results of our ongoing monitoring program or otherwise, that your products no longer comply with GS-41A.

As a reminder, any use of the Green Seal Mark or reference to Green Seal needs to be approved by Green Seal and conform to the Rules Governing the Use of the Green Seal Certification Mark. Please forward all new or revised packaging or marketing materials to [certification@greenseal.org](mailto:certification@greenseal.org) for approval prior to production.

To get the most benefit from your Green Seal certification, we encourage you to contact a member of our Marketing & Communications department at [marketing@greenseal.org](mailto:marketing@greenseal.org). They can help support you in promoting and effectively communicating your certification with a range of graphics and tools.

Congratulations on this achievement by Ecolab. We look forward to continuing this relationship.

Sincerely,



Arthur B. Weissman, Ph.D.  
President & CEO

**HEADQUARTERS**

1001 Connecticut Ave NW, Ste 827  
Washington, DC 20036-5525

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phone: 202.872.6400 fax: 202.872.4324 [www.greenseal.org](http://www.greenseal.org)

THE ORIGINAL GREEN SEAL OF APPROVAL SINCE 1989





# Green Seal<sup>™</sup>, Inc. Proudly Presents Certification to

## Ecolab

Green Seal, Inc. certifies that the following products comply with the Green Seal Standard for Hand Cleaners for Industrial and Institutional Use (GS-41A) and are licensed to use the Green Seal Certification Mark:

Facililpro Mild Foaming Hand Soap ♦ Foam Hand Soap

Keystone Foam Hand Soap ♦ Clean & Smooth

*(specific package sizes listed in certification letter)*

Certified this 25<sup>th</sup> day of February, 2015.

A handwritten signature in black ink, appearing to read "Arthur B. Weissman".

---

Arthur B. Weissman, Ph.D., President & CEO





# Environmental Certification

*Presented to*

## ECOLAB

Green Seal, Inc. certifies that the following products comply with or exceed Green Seal's Environmental Standard for General-Purpose, Bathroom, and Glass Cleaners Used for Industrial and Institutional Purposes (GS-37) and are licensed to use the Green Seal Certification Mark:

Oasis Pro 18G All Purpose Cleaner  
Oasis Pro 34G Neutral Floor Cleaner  
Oasis Pro 43G Glass Cleaner  
Oasis Pro 67G Bathroom Cleaner

*(Specific pack sizes listed in certification letter)*

Certified this 2nd day of June, 2005.

---

Mark T. Petruzzi, Vice President of Certification



---

## Mohammed Altamush Khan

**From:** Ammar Taj Othman  
**Sent:** Thursday, January 11, 2018 9:27 AM  
**To:** Mohammed Altamush Khan  
**Subject:** FW: Green Products specification  
**Attachments:** 1346862566GSCertAcidBathGlass8112.pdf; 1437660472Hand Soap Green Seal Cert Letter Certificate 2 25 15.pdf; Oasis Pro Cert.pdf; image001.jpg

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Mr. Altamush

Find the attached file for Clean products (ECO friendly )

---

**From:** Syed Irfan Ahmed  
**Sent:** Thursday, January 11, 2018 9:14 AM  
**To:** Ammar Taj Othman  
**Subject:** FW: Green Products specification

Fyi..

Syed Irfan Ahmed  
Purchase Analyst  
Finance Department  
Smsa Express Trans Co. Ltd,



Tel: 4633399\*409

Fax: 4633999\*401

E.mail: [sjahmed@smsaexpress.com](mailto:sjahmed@smsaexpress.com)

---

**From:** Mohd Sajid - Aqua-Tech Cont. (A.T.C) [mailto:[sajid@aquaksa.com](mailto:sajid@aquaksa.com)]  
**Sent:** Wednesday, January 10, 2018 8:38 PM  
**To:** Syed Irfan Ahmed  
**Subject:** Green Products specification



Dear Mr Irfan

Please refer below the quote as requested also attached is the specifications

Atc Code	Product Description	Packing	Dilution Rate	Price
6100143	Oasis Lavendor (Ecolab Airfreshner)	2.5USG	30Ml Per Ltr	380.00
VER-85250131	Microfibre Cloths (Available In 5 Colors)	5x1		90.00
10141	Ecolab Digi Foam Hand Soap	6x750Ml	1Ml Per Application	280.00
12146	Ecolab Bathroom Cleaner	2.5USG	30Ml Per Ltr	310.00
14559	Oasis 137 Orange Force (All Purpose Cleaner	2.5USG	32Ml Per Ltr	280.00
18903	SS Polish Stainless Steel Polish & Cleaner	12x17OZ	Ready To use	300.00
10909	Ecolab Glass Cleaner	2.5USG	30Ml Per Litr	300.00
14886	Clean & Smooth (Anti Bacterial Liquid Hand Soap)	4x1USG	1ml Per Application	400.00

*Best Regards*

Nishad Shereef

Abudawood Trading Co.

[Tel:-0114229848](tel:0114229848) Ext. 228

Fax:-011 4229849



**Mob:0533377836**

**Email:-nishad.shereef@abudawoodtrading.com**

**www.abudawoodtrading.com**

**Best Regards**

**Mohammed Sajid**

*Marketing Manager*



**Mobile : +966 54 534 4004**

**+966 56 257 7225**

**E-Mail : [sajid@aquaksa.com](mailto:sajid@aquaksa.com)**

**[info@aquaksa.com](mailto:info@aquaksa.com)**

**Web : [www.aquaksa.com](http://www.aquaksa.com)**

**Aqua-Tech Cont. Est**



# RAPISCAN 638DV



Dual view technology, large tunnel design for ULD and pallet cargo X-ray screening.

Advanced Cargo Screening

Dual View Technology

ULD Type and Pallet Cargo

Automatic Detection of Explosives



The Rapiscan 638DV is an advanced Dual-View X-ray system for screening of ULD, ISO standard, lower deck and large cargo pallet type freights. With a large and spacious tunnel size of 1,800 mm x 1,800 mm, Dual View technology and Automatic Explosives Detection feature, the Rapiscan 638DV is widely used for air cargo screening and customs applications where throughput is most important.

The Rapiscan 638DV has been approved and included on the U.S. TSA Air Cargo Screening Technology List (ACSTL) applicable to U.S TSA Certified Cargo Screening program (CCSP).

Tunnel Opening (width x height):  
1,800 x 1,800 mm (70.9 x 70.9 in)

## Standard Features

- Multi Energy Imaging (4 Color)
- View Previous/Next Bag
- Manual Image Archive
- Configurable Image Processing Keys
- Baggage Counter
- Date / Time Display
- Search Indicator
- UPS (Uninterrupted Power Supply)
- Remote Workstation
- Flat Panel Monitor

## Standard Image Processing Functions

- Crystal Clear™
- Black and White
- Organic / Inorganic Stripping
- Inverse Video
- High Penetration
- Pseudo Color
- Low Penetration
- Variable Edge Enhancement
- Variable Color Stripping
- Variable Gamma
- Variable Density
- Dynamic Continuous Zoom & Panning
- Fixed Zoom (64x)

## Automatic Detection of Explosives

Target™ automatically detects a wide range of explosives in real time during the scanning process by visibly highlighting a potential threat on the X-ray image.

## Meeting Today's Most Stringent Global Requirements

Rapiscan 638DV meets the most rigorous detection and image quality requirements as set by the U.S. Transportation Security Administration (TSA).

## Greatest Number of Operator-Assist Tools Enables Highest Throughput

With over 13 image processing tools and multiple automatic detection functions, the feature rich software helps the operator easily and accurately detect contraband for the highest throughput and least operator fatigue.

## Dual View Advanced Technology

Government regulators such as U.S. Transportation Security Administration (TSA) require dual view technology. Rapiscan dual view systems are able to produce two (2) separate simultaneous images from perpendicular orientations providing a more complete image, reducing the need for repositioning and rescanning and enabling rapid, accurate and comprehensive threat detection.



**Rapiscan**  
systems

An OSI Systems Company

[www.rapiscansystems.com](http://www.rapiscansystems.com)



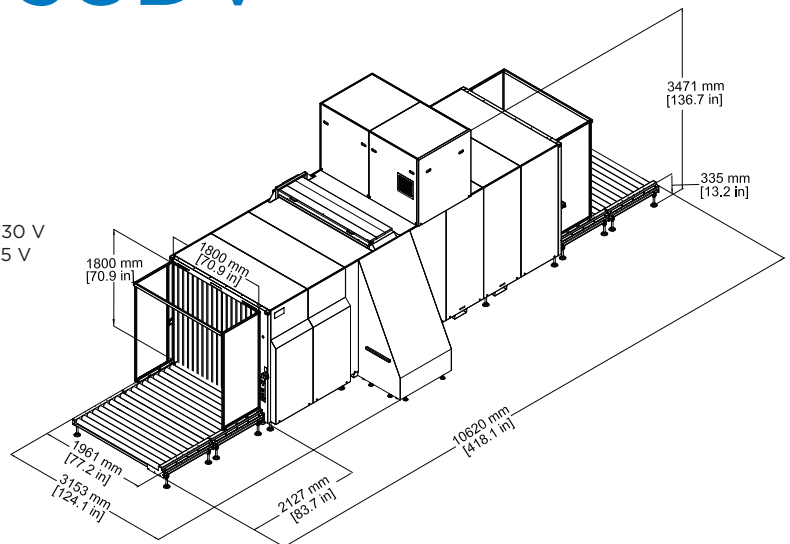
# RAPISCAN 638DV

## Physical Specifications

Dimensions:	Length: 10,620 mm (418.1 in.)
	Width: 3,153 mm (124.1 in.)
	Height: 3,471 mm (136.7 in.)
Tunnel Size:	1,800 mm (70.9 in.) X 1,800 mm (70.9 in.)
Conveyor Speed:	0.20 m/sec (39.4 ft./min)
Conveyor Load:	3,000 Kg (6,614 lbs) evenly distributed at 230 V
	1,500 Kg (3,307 lbs) evenly distributed at 115 V
Conveyor Height:	335 mm (13.2 in.)
Approx Weight:	Net: 6,312 Kg (1,3912 lbs)
System Power:	115/230 VAC $\pm 10\%$ , 60/50Hz

## X-Ray Generator and Image Performance\*

Steel Penetration:	45 mm guaranteed, 50 mm typical
Wire Resolution:	38 AWG guaranteed, 40 AWG typical
Material Separation:	Low Z, Medium Z, High Z to 0.5 Z accuracy
Cooling:	Sealed oil bath with forced air
Anode Voltage:	Operating at 200KV
Tube Current:	1.0 mA
Orientation:	Vertically Downward and Horizontal



## Operating Environment

Storage Temperature:	-20°C to 50°C
Operating Temperature:	0°C to 40°C
Relative Humidity:	5 to 95% non-condensing

## Health & Safety

Rapiscan Systems' cabinet X-ray products comply with all applicable US FDA and equivalent international regulatory agency requirements, contained in the cabinet X-ray radiation safety performance standard [21 CFR 1020.40] and the general performance standard [21 CFR Part 1010]. Rapiscan Systems certifies each cabinet X-ray product has a maximum radiation emission leakage of less 1  $\mu$ Sv/hr (0.1 mR/hr) from all external surfaces of the cabinet X-ray system.

## Options and Accessories

\*Target™ / Interactive Target™  
(Automatic detection of solid explosives)

Density Threshold Alert (DTA)

Threat Image Projection (TIP)

Automatic Image Archiving

Network Display Station (NDS)

Manual Scan

Operator Training Program (OTP)

Computer Based Operator Training (CBT)

Network Display Station (NDS)

Foot-mat

Optical Operator Presence Sensor

Roller Bed Accessories

SmartCard Login

Power Conditioner

Printer Kit

## AMERICAS, CARIBBEAN

2805 Columbia Street  
Torrance, California 90503  
UNITED STATES of AMERICA  
Tel: +1 310-978-1457  
Fax: +1 310-349-2491

## EUROPE, MIDDLE EAST, AFRICA

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Salfords  
Surrey RH1 5GG  
UNITED KINGDOM  
Tel: +44 (0) 870-7774301  
Fax: +44 (0) 870-7774302

## ASIA

240 Macpherson Road  
#07-01 Pines Industrial Building  
Singapore 348574  
SINGAPORE  
Tel: +65-6846-3511  
Fax: +65-6743-9915

## EMAIL

sales@rapiscansystems.com

## WEB

www.rapiscansystems.com

\*Stated performance as measured by Rapiscan Imaging Validation Test Kit.  
Stated Dual View performance as measured in primary view.

With continual development of our products Rapiscan Systems reserves the right to amend specifications without notice. Product pictures are for general reference. Please note that due to US laws and regulations, not all Rapiscan products are available for sale in all countries without restriction. Please contact your Rapiscan Systems sales representative for more information.

**Rapiscan**  
systems

An OSI Systems Company

ONE COMPANY - TOTAL SECURITY



Rapiscan Systems is  
ISO 9001:2008 Certified

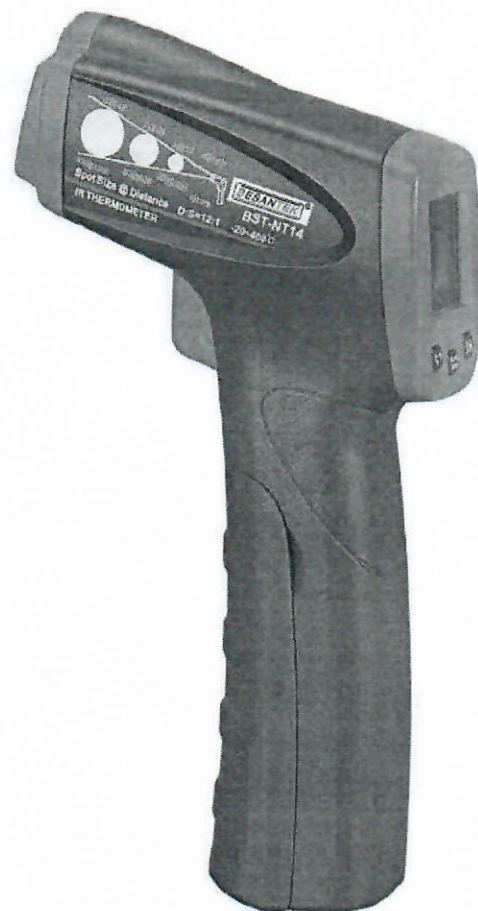
www.rapiscansystems.com



BESANTEK IR Thermometer is designed to be practical for quick measurements up close or at a distance with non-contact temperature measurements.

## Features:

- Adaptive and highly sensitive sensor with fast response and high accuracy.
- Selectable °C or °F.
- Large LCD display.
- Double display backlight.
- Max., min. and DIF temperature readings help quickly identify problems.
- Check starters, fuses and bus connections, enclosed relays, bearings, belts and sheaves, etc.
- It is fast, efficient and easy to use, saving your valuable time and effort.
- Reliable and stable.
- Laser switch.
- Electricity cut off memory.
- Tripod mount.
- Low battery warning display.
- Sleep mode.
- Accessories: Instruction manual and battery.



**BST-NT14**

## Technical Specification:

BST-NT14	
Temperature Range	-20°C~400°C (-4°F~752°F)
Maximum Measurement Precision	±2°C or ±2% (ambient temperature: 23°C±2°C)
Resolution	0.1°C (0.1°F)
Repeatability	< ±0.5°C or < ±0.5%
Distance to Spot Size	12:1
Response Time	500ms
Spectral Response	8μm~14μm
Laser Type	Class 2 (II)
Laser Power	< 1mW
Laser Wavelength	630nm~670nm
Display Hold	8 seconds
Emissivity	0.1~1.0 Adjustable
Power Source	9V battery x 1
Dimensions	153mm x 108mm x 40mm
Weight	185g

## Ordering Information:

- BST-NT14: IR Thermometer -20°C ~ 400°C.



Safety Standard:

- EN 61326-1:2013, EN 61326-2-2:2013