



Australia Pacific  
agent solutions  
+61 2 49610008

## introducing Kleen n Dry ER

[www.ciagent.com.au](http://www.ciagent.com.au)



### CIAGENT SOLUTIONS AUSTRALIA PACIFIC

Based in Australia, provides  
Eco friendly Kleen n Dry ER  
by association with natural industries,  
plant breeding and related  
research and development of  
domestic and international fibre

CIAgent continues to build it's  
International reputation as an  
industry development leader.

With governments increased  
concern over the environment, the  
laws protecting the environment  
are becoming more strict each year.

**CIAgent is proud to provide  
Kleen n Dry ER as a  
natural bioremediation and  
absorbent solution.**

### ABOUT Kleen n Dry ER

Kleen n Dry ER products result in short and long term economic and environmental benefits in your hydrocarbon spill management program. Its absorbing characteristics allow it to compete with all absorbents and lead the field in organic sorbents. The natural occurring micro-organisms promote enhanced bioremediation.

### INTRODUCING Kengro Biosorb

Kleen n Dry ER is a granular cellulose (organic) oil absorbent / bioremediation\* agent used to absorb hydrocarbon based products. It contains natural (indigenous) microbes that eat hydrocarbons. It is made from an annual renewable fiber crop (kenaf).

- \* Bioremediation allows natural breakdown of contaminants using microbes that are either in a product (Kleen n Dry ER) or live naturally in the soil or water.

### BENEFITS

Kleen n Dry ER offers a low stress solution to a high stress situation.

#### The 11 basic benefits of Kleen n Dry ER.

1. Quick to clean up, easy to work into soil or sweep on hard surfaces, no clumping,
2. Quick to absorb and "Hold oil in",
3. Absorbs 6-8 times its own weight (T102 light crude standard),
4. 100% bio base, 100% organic PH Neutral cellulose,
5. Anaerobic and Aerobic (will remediate buried in soil or above ground),
6. Bio remediates, 2 million hungry microbes per gram that multiply exponentially and eats oil turning hydrocarbons into water and carbon,
7. Environmentally safe to dispose, literally grow grass after 250 days,
8. Surface area cellulose approximately 1,800m<sup>2</sup> /gram,
9. Non-hazardous chemical, non abrasive,
10. Reduced oil leaching in water saturated areas,
11. Easy to handle, convenient bags and weight, recyclable bags.

Used exclusively at many petroleum companies including BP and Chevron facilities in North and South America.

Kleen n Dry ER results in short and long term economic and environmental benefits for your hydrocarbon spill and risk management.



Australia Pacific  
agent solutions



# Kleen n Dry ER

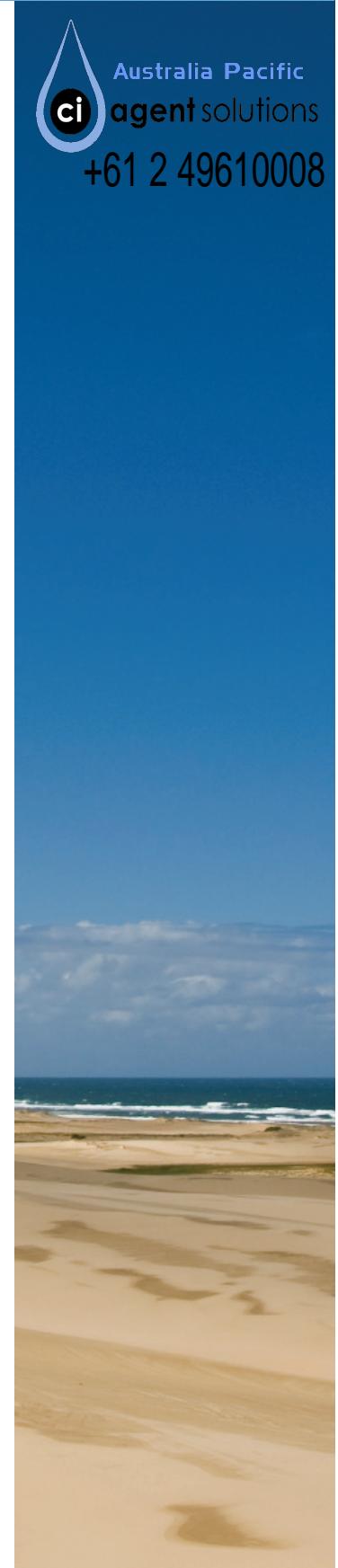
## ABSORBENCY

The absorbency results based on weight for the various Chemicals are as follows:

CHEMICAL	ABSORBENCY (Times its weight)	ABSORBENCY RATIO
Light Crude Oil (6.3 ppg)	5.5	1:5.5
Medium/Heavy Crude (.1 ppg)	8.4	1:8.4
Jet Fuel	4.9	1:4.9
UCARSIL	4.6	1:4.6
Varsol	4.0	1:4.0
Lighter Fluid	4.1	1:4.1
Phenol Red*	5.1	1:5.1
Poly Ethylene Glycol	7.8	1:7.8
Phosphoric Acid*	8.6	1:8.6
Hydrochloric Acid	7.4	1:7.4
Trichlorethane	6.8	1:6.8
Diesel	5.6	1:5.6
Gas	4.4	1:4.4
Paint Thinner	4.7	1:4.7
Formaldehyde	5.6	1:5.6
Mineral Oil	8.2	1:8.2
Hexane	3.6	1:3.6
Methylene Chloride	4.9	1:4.9
Toluene	5.5	1:5.5
Methanol	5.0	1:5.0
Methyl-Hydrogen Silicone	6.7	1:6.7
SAE 40	8.3	1:8.3
Burnt SAE 40	7.4	1:7.4
Brake Fluid	7.0	1:7.0

**The following chemicals and other hydrocarbons are absorbed by Kleen n Dry ER.**

Acetone	Chlorobenzene	Hexachlorobenzene	Pentane
Ammonia	Cutting Oils	Isoprene	Phenol
Benzene	Dichlorobenzene	Jet Fuel	Propanol
Butanol	Diesel Fuels	Kerosene	Styrene
2-Butanone	Ethanol	Methanol	Tetrachloroethane
Bromoform	Ethylbenzene	Methylene Chloride	Tetrachlorethylene
Carbon Disulfide	Ethylene Glycol	Methyphenol	Toluene
Carbon Tetrachloride	Gasoline	Motor Oil	Trichlorethylene
Chloroform	Glycerine	Naphthalene	Vinyl Acetate
Chloromethane	Hexane	Nitrobenzene	Vinyl Chloride



# Kleen n Dry ER



## Procedures for CONTAMINATED SOIL

- Apply Kleen n Dry ER evenly across area of contamination, spot treat any pooled oil until completely absorbed 25mm depth application of Kleen n Dry ER covers approx 4 Sq Mtrs
- Using rake or tiller, till treated soil to an average depth of 100mm This will incorporate Kleen n Dry into the soil as well as provide essential oxygen.
- Kleen n Dry ER contains essential nutrients which naturally enhance bioremediation. However, affected soil should be tested to determine the need for additional nutrient or fertilisers.
- For Best results, soil pH should remain within 5.5 to 7.0
- Periodic tilling will ensure ample oxygen supply.



## Procedures for HARD SURFACE APPLICATIONS

Spread sparingly on the spill until oil is absorbed. Sweep up, place in suitable container and dispose according to regulations.

### 1. How does Kleen n Dry compare in Application Rates to other Granular Absorbents

Kgs of Absorbent to absorb 3.7 Litres T-102 Light Crude

	Amount/kgs
Kleen n Dry ER	0.5
Clay	7
Sphagsorb	0.7
Corn Cob	3.6
Absorbent W	0.8
Oil Gator/Enretech	1

### 2. How long will it take for bioremediation of contaminated soil?

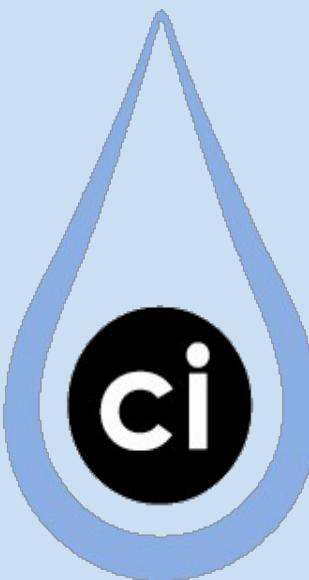
This depends on environmental conditions. The product will encapsulate the hydrocarbon until conditions are conducive for microbial activity. Warm temperature with adequate soil moisture and soil nutrients will enhance rapid bioremediation.

### 3. Besides cost, what are other advantages of Kleen n Dry ER versus competition?

Product Properties	Kleen nDry ER	Clay	Corn Cob	Absorbent W	Sphagsorb	Oil Gator
Biodegradable	X		X	X	X	X
Bioremedial*	X					X
Non-Abrasice	X				X	X
Non-Leaching	X			X	X	
Vapor Suppression	X				X	
Non Carcinogenic	X		X	X	X	X
Repels Water	X				X	
Annual Renewable Resource	X		X			X

## FOR FURTHER INFORMATION

contact your friendly sales representative.



**agent solutions**  
**Australia Pacific**

**+61 2 49610008**

**www.ciagent.com.au**

**The future of Oil Spill Containment  
That won't Cost the Earth**

