Carmel Resins Ltd.

P.O. Box 8, Atlit 30300, Israel
Tel # : 972-4-9549600
Fax # : 972-4-9842452; 972-4-9842499

email : laboratory@carmel-chemicals.com

MATERIAL SAFETY DATA

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Identification of the substance

Product Name : **Calur**
Synonyms : Urea-formaldehyde Cellulose Reinforced Molding Compound, Urea Form
Chemical Family : Amino Resin
Molecular Formula: Polymer

1.2 Use of the substance

Calur is used as a slow release fertilizer for different agricultural crops.

1.3 Company identification

If you have any questions, please contact Carmel Chemicals Ltd.,
P.O. Box 8, Atlit 30300, Israel.
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2. COMPOSITION / INFORMATION ON INGREDIENTS

OSHA Regulated Components

Component	Cas. No.	%	TWA/Ceiling	Reference
Urea Formaldehyde Polymer	009011-05-6	60-75	Not Listed	OSHA
Cellulose	009004-34-6	25-30	15 mg/m^3 total	OSHA
			5 mg/m^3 respirable	OSHA
			10 mg/m^3	ACGIH

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Component	Cas. No.	%	TWA/Ceiling	Reference
Zinc Stearate	000557-05-1	0-1.0	10 mg/m^3 total 5 mg/m^3 respirable	OSHA
Barium Sulfate	007727-43-7	0-2.5	10 mg/m^3 total 5 mg/m^3 respirable	OSHA/ACGIH OSHA
Zinc Oxide	001314-13-2	0-1.0	10 mg/m^3 total 5 mg/m^3 respirable	OSHA/ACGIH
Titanium Dioxide	013463-67-7	0-2.0	10 mg/m^3 total	OSHA/ACGIH
Carbon Black	001333-86-4	0-1.5	3.5 mg/m^3	OSHA/ACGIH
Ferric Oxide	001309-37-1	0-2.0	10 mg/m^3 total 5 mg/m^3 respirable	OSHA ACGIH

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odor: Granulated material, various colors, no odor
Statements of Hazard: NO WARNING STATEMENT

Potential Health Effects

Effects of Overexposure

Acute oral (rat) and dermal (rabbit) LD50 values are estimated to be greater than 5,000 mg/kg and greater than 2,000 mg/kg respectively. The 4-hour inhalation LC50 (rat) value is estimated to be greater than 20 mg/L.
Direct contact with Calur will not produce adverse effects.
It has been determined that Calur dusts do not produce toxicity hazards.
Inhalation exposure up to the OSHA nuisance dust level (15 mg/m^3) of Calur dusts containing cellulose, zinc stearate and carbon black would not produce significant adverse health effects.
Refer to section 11 for toxicology information on the OSHA regulated components of this product.

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4. FIRST AID MEASURES

In case of skin contact, wash affected areas of skin with soap and water. In case of eye contact, immediately irrigate with plenty of water for 15 minutes. In case of ingestion, rinse mouth with water. Drink large quantities of water, then induce vomiting. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media and Fire Fighting Instructions

Use water, carbon dioxide, dry chemical or sand to extinguish fires. Wear self-contained, positive pressure breathing apparatus. Do not inhale gases. Combustion Products: carbon dioxide, some carbon monoxide, ammonia, formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Released or Spilled:

Sweep up spills and place in a waste disposal container. Flush area with water.

7. HANDLING AND STORAGE

7.1 **Handling:** Keep container closed. When handling, avoid eye contact. Use good house keeping practices to prevent the accumulation of dust.

7.2 **Storage**: Keep under cover, in a cool and dry place. Excessive heat and/or moisture may cause resin agglomeration.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Limit Values:

There are no applicable occupational exposure limit values Calur.

8.2 Exposure Controls

8.2.1 Occupational Exposure Controls

Engineering controls are usually not necessary if good hygiene practices are followed. Before eating, drinking or smoking, wash face and hands thoroughly with soap and water. Avoid unnecessary skin contact. Provide general and /or local exhaust ventilation in order to control airborne dust levels below the exposure guidelines.

8.2.1.1 Respiratory Protection

Where exposures are below the Permissible Exposure Limit (PEL) no respiratory protection is required. Where exposures exceed the PEL, use safety masks for dust.

8.2.1.2 Hand Protection

Gloves made of rubber, plastic or cloth are recommended in order to avoid prolonged skin contact.

8.2.1.3 Eye Protection

For operations where eye contact can occur, eye protection by wearing safety glasses or safety goggles is recommended.

8.2.1.4 Skin Protection

Wear clean body-covering clothing.

8.2.2 Environmental Exposure Controls

This material poses no danger to the environment, be it air, soil or waters.

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9. PHYSICAL OR CHEMICAL PROPERTIES

9.1 General Information

Appearance:	Granulated solid, various colors
Odor:	Not perceptible

9.2 Important Health, Safety and Environmental Information

pH:	Not applicable
Boiling Point/Boiling Range:	Not applicable
Flash Point:	Not applicable
Flammability:	Practically non-flammable, has self extinguishing properties
Explosive Properties:	None
Oxidizing Properties:	None
Vapor Pressure:	Not applicable
Relative Density:	About 1.5
Solubility:	
- Water solubility:	Negligible
- Fat solubility:	Negligible
Partition Coefficient:	
- n-octanol/water:	Not applicable
Viscosity:	Not applicable
Vapor density:	None
Evaporation rate:	None

9.3 Other Information

Melting range:	90-110 C
Auto-ignition temperature:	400 C

10. STABILITY AND REACTIVITY

Stability of the material: Stable.

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10.1 **Conditions to avoid**: None known.
10.2 **Materials to avoid**: No materials known that may cause dangerous reaction.
10.3 **Hazardous decomposition products:** Carbon monoxide, carbon dioxide, formaldehyde, ammonia, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3, **Hazards Identification.** Toxicological information on the OSHA regulated components of this product is as follows:

Cellulose is considered an inert or nuisance dust which seems to have little adverse effect on the lung and does not produce significant organic disease or toxic effects.

Airborne cellulose dust is non-irritating. Human doses of up to 30 g/day can be tolerated.

Zinc Stearate is moderately toxic: probable oral lethal dose for humans is 0.5-5.0 g/kg. Inhalation of Zinc Stearate powder may cause severe irritation of respiratory membranes.

Overexposure to Barium Sulfate is unlikely to cause significant acute toxic effects. Barium Sulfate is considered to be an inert dust. Inhalation of Barium Sulfate can accumulate in the lungs (baritosis) with little or no physical disability.

The oral LD50 (mouse) of Zinc Oxide is 7950 mg/kg. It is a moderate eye and skin irritant.

Acute overexposure to titanium dioxide dust is not likely to cause adverse effects. Chronic overexposure to titanium dioxide may cause some lung fibrosis. Inhalation of titanium dioxide dust at 50 times the nuisance dust level caused lung fibrosis and a slight increase in lung tumor incidence in laboratory rats.

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When titanium dioxide was fed to rats and mice over lifetime in a carcinogen bioassay, it was not carcinogenic.

Acute overexposure to carbon black dust may cause slight respiratory irritation. The oral LD50 of carbon black in rats is > 25.1 g/kg.

Iron oxide overexposure is unlikely to cause significant acute toxic effects. Inhalation of iron oxide fumes or dust can deposit or collect in the lungs (siderosis) with little or no physical disability.

12. ECOLOGICAL INFORMATION

No aquatic LC50, BOD or COD data available.

12.1 Ecotoxicity

According to the German classification system for substances hazardous to waters, Calur can be classified as: WGK=0. That means: No hazard to waters.

12.2 Mobility

If released to the environment, there is no possibility that the material could be transported to groundwater or far from the site of the release.

12.3 Persistence and degradability

Not tested but expected to be readily biodegradable. Having a high nitrogen content it is known to be a nutrient for bacteria, which means biodegradability.

12.4 Bioaccumulative potential: Not tested but expected to be minimal.

12.5 Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Disposal must be made in accordance with the relevant community, regional or national provisions.

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14. TRANSPORT INFORMATION

Calur is not hazardous to be transported by sea, road and air.

15. REGULATORY INFORMATION

FDA STATUS

Calur which is synonymous to Urea-formaldehyde molding compound is accepted by the U.S. Food and Drug Administration, and may be safely used as the food contact surface of molded articles intended for use in contact with food, as described under Title 21 of the Code of Federal Regulations, paragraph 177. 1900.

16. OTHER INFORMATION

N F PA HAZARD RATING (National Fire Protection Association)

	Fire		FIRE : Materials that must be preheated before
	1		ignition can occur.
Health 0		0 Reactivity	HEALTH: Materials which on exposure
	-		under fire conditions would offer
			no hazard beyond that of ordinary
	Special		combustible material.
			REACTIVITY: Materials which in themselves are
			normally stable, even under fire
			exposure conditions and which are
			not reactive with water.

This MSDS was prepared according to EC Directive 2001/58/EC.
Prepared by: Health & Environment Dept., Carmel Chemicals Ltd., P.O. Box 8, Atlit 30300, Israel. Tel.: + 972 4 9549664.