

# CORIUM 168

## Electrical & Motor Cleaner

### DESCRIPTION

**CORIUM 168 Electrical & Motor Cleaner** is the new environment-friendly, precision degreaser formulated for electrical contacts and motors. It offers high solvency and fast evaporation properties. CORIUM 168 serves as a preferred alternative to CFC (Chlorofluorocarbon) and HCFC (Hydrochlorofluorocarbon) cleaners. As a NPB (N-Propyl Bromide) based degreaser, CORIUM 168 is non-flammable<sup>Note</sup>, contains low odor, and it has a near zero, Ozone Depletion Potential (ODP) and Global Warming Potential (GWP).



500ml, 5 litre & 20 litre packing

### PERFORMANCE CHARACTERISTICS

- ❑ Non-flammable<sup>Note</sup>

<sup>Note</sup> Most hydrochlorocarbons, some hydrofluoroethers, some hydrochlorofluorocarbons and NPB will burn when the vapor concentration in air is within narrow limits. When such vapors begin to burn, several factors rapidly change the vapor concentration so that it is no longer within the flammable limits. The concentration in the vapor state is depleted by both consumption in the oxidation process and by expansion of the vapor caused by the exothermic combustion. **The combustion rapidly self-extinguishes.** So they are practically non-flammable even though they have measurable flash points.

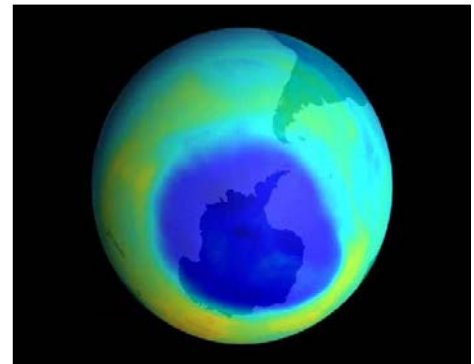
These NPB products will be declared as DG with export shipment. However, it is expected that “Flammable” warning symbol will NOT be required on the product labels in countries other than the EU.

- ❑ Moderately low boiling point – evaporates instantly

- ❑ A new solvent system that encompasses a multipurpose solvent and a performance enhancing stabilizer package
- ❑ A high performance & safe substitute for Trichloroethane, Trichloroethylene and other solvents
- ❑ Minimal global warming potential
- ❑ No residues, fast drying
- ❑ All components are EINECS (European INventory of Existing Commercial Substances), TSCA (Toxic Substances Control Act), and MTTI registered
- ❑ Low toxicity, not classified as carcinogenic
- ❑ Not regulated with respect to ODP (Ozone Depletion Potential)
- ❑ Contains no registered HAP's (Hazardous Air Pollutant)

### KEY BENEFITS

- ❑ Excellent degreasing performance on electrical components, sensitive electrical parts and electric motors
- ❑ Patented stabilization + performance enhancing system – lasts up to 4 times as long in use
- ❑ Powerful - cleans without scrubbing
- ❑ Leaves no residues – extremely high purity solvent
- ❑ Fast evaporation for best degreasing impact on the most delicate parts and components (up to 33% more efficient than Trichloroethylene, in vapor loss)
- ❑ Reclaimable – save expensive waste removal costs
- ❑ User-friendly in most existing cleaning systems, saving large investment costs associated with new systems
- ❑ Environmentally safe, and is not covered under NESHAP (National Emissions Standards for Hazardous Air Pollutants) regulations



The new CORIUM 168 helps save the depleted Ozone layer

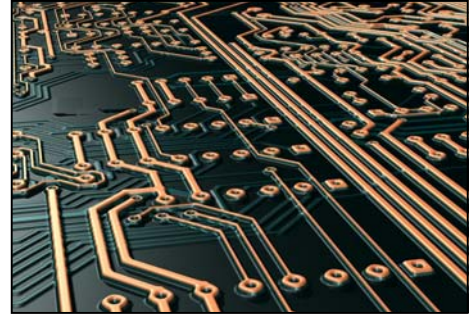


Electrical chips

- A better and genuine substitute for old style ozone-depleting solvents such as Freon and Genesolv 2004

## RECOMMENDED APPLICATIONS

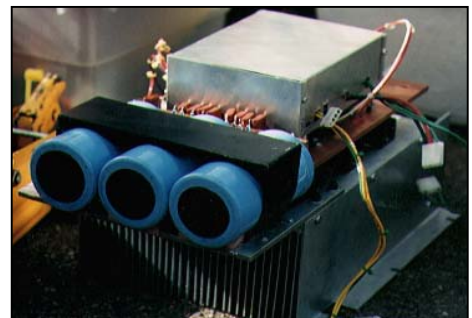
- Perfect for most electrical contacts, electric motors and many other electrical components
- Switch controls, potentiometers, contacts, circuit breakers, relays, solenoids, rectifiers, plugs and receptacles, condensers, generators, insulation coils, instruments, meters, timers, panelboards, signals, alarms, controls, recorders, shielding, counters, oscillators, filters, rheostats, sub-assemblies, synchronizers, transmitters, receivers, testers, exciters, headsets, microphones, speakers, plastics, printed circuits, painted and plated surfaces.
- Ideal for difficult cleaning situations where solvent entrapment is a concern
- Easily removes both polar and non-polar contamination such as grease, dust, light oil, and rosin fluxes
- Outstanding degreasing performance on all types of PCBs and even clean hybrids and rightly packed surface mount assemblies
- Safe for fragile circuits such as read-write heads in disc drives
- CORIUM 168 is the only alternative that can be used in old style vapor degreasers without retrofitting
- **Note: Some sensitive plastics & elastomers should be tested for compatibility before applying**



Printed circuit board



Electric motor



Electrical controller



Disc drive

## HOW TO USE

When using on flimsy or cheaper grades of plastic, pre-test to ensure there is no grazing or softening of the substrate. Since CORIUM 168 effectively cleans and degreases most surfaces so rapidly, special attention should be paid to rust or oxidation-prone surfaces once cleaned as such surfaces no longer have any protective oil film to retard the onset of rust. Examples would be cast iron parts or mold steels.

1. Read the instructions on the can.
2. CORIUM 168 will rapidly dissolve all oily substances and then vaporize (evaporate). After vaporizing, loosened dirt may still remain, and this can be easily removed with a wire brush, emery paper, a toothbrush or cotton swabs - depending on the severity of the contaminant.
3. CORIUM 168 is especially recommended for cleaning surfaces and parts prior to joining together with adhesives (such as epoxy) as it effectively degreases the joints and leaves no contaminants, thereby promoting better bonding and joint integrity. In such applications, thoroughly wet the surfaces to ensure ample and complete surface flushing action.
4. It vaporizes rapidly to promote faster parts re-use.
5. For heavily-encrusted surfaces, re-spraying and agitation with a brush may be necessary to ensure CORIUM 168 gets deep down into the contaminant to pry it loose.
6. CORIUM 168 also features a unique "all position" spray head and will spray evenly, even when in areas of difficult access to the parts to be cleaned, where tilting the can while spraying is unavoidable. (Normally aerosol applicators only spray evenly when held vertically upright).

## TYPICAL DATA

|                                 |                         |
|---------------------------------|-------------------------|
| Color & Appearance              | Clear liquid            |
| Odor                            | Low                     |
| Density                         | 1.30 – 1.35 g/ml @ 20°C |
| Acid acceptance value           | < 0.20 % NaOH           |
| Maximum level of impurities     |                         |
| Residues                        | < 50 ppm                |
| Water                           | 450 ppm                 |
| Stability                       | passes Aluminum test    |
| Distillation range at 760 mm Hg | 5 – 95%                 |
|                                 | 66 – 72°C               |
| Boiling Point                   | 69.5°C                  |

|   |             |
|---|-------------|
| Approx. freezing point                        | -110°C      |
| Specific gravity                              | 1.3         |
| Specific heat (cal/°C)                        | 0.25        |
| Heat of vaporization:<br>Cal / gm<br>BTU / lb | 57<br>302.3 |
| Refractive index at 25°C                      | 1.48        |
| Viscosity at 25°C (cps)                       | 0.42        |
| Flash Point (Tag closed cup ASTM-D56)         | None        |
| Vapor density (air=1)                         | 4.3         |
| Kauri Butanol value                           | 120         |

### **ELECTRONICS PLASTICS COMPATIBILITY**

| POLYMER                   | SOAK TEST<br>(1 HOUR) | VAPOR TEST<br>(2 MINUTES<br>EXPOSURE) |
|---------------------------|-----------------------|---------------------------------------|
| Polyurethane              | Compatible            | Compatible                            |
| Polyester                 | Compatible            | Compatible                            |
| Isoprene (natural rubber) | Compatible            | Compatible                            |
| PVC                       | Compatible            | Compatible                            |
| Aramid                    | Compatible            | Compatible                            |
| Cellophane                | Compatible            | Compatible                            |
| Polycarbonate             | Incompatible          | Incompatible                          |
| Polystyrene               | Incompatible          | Incompatible                          |
| FRP-Epoxy                 | Compatible            | Compatible                            |

GENERAL TEST: A circuit board with a clear acrylic coating and over 300 different components was immersed in the solvent and in the vapor, when checked, no sign of attack was visible

### **PRECAUTIONS**

**COMPATIBILITY:** CORIUM 168 Electrical & Motor Cleaner generally will clean all common components, given that some plastics and elastomers will need to be tested for compatibility before using it. It is safe for cured epoxies, flux laminates, and solder masks, metals and their alloys. Whilst this product can replace CFC's it may not be suitable universally. Users should test before application on soft or sensitive plastics and elastomers.

**HEALTH AND SAFETY:** This product is based on n-Propyl Bromide and performance enhancing stabilizers. It is recommended that a 100ppm-workplace exposure limit be maintained. It is not flammable and is neither a known or suspected carcinogenic.

Good chemical management always requires users to be trained in safe and efficient handling of the product. Always use care when operating a vapor degreaser and maintain good ventilation when using this product. Take care to control the solvent and hazards & waste will be minimized.

For complete safety and handling instructions, please refer to the Material Safety Data Sheets prior to using this product. This is a vapour-cleaning grade product, it is a harmful substance and should be stored in a well-ventilated place.

Pressurized aerosol container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Keep out of reach of children. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Do not breathe spray. In case of insufficient ventilation, wear suitable respiratory equipment. If swallowed, seek medical advice immediately and show this container or label. Use this aerosol product only for the applications for which it is intended.

**WARRANTY:** Magna Industrial Co. Limited will replace any material found to be defective. Because the storage, handling and application of this material are beyond our control we can accept no liability for the results obtained.

**DISCLAIMER:** All information on this data sheet is based on laboratory testing and is not intended for design purposes. Magna Industrial Co. Limited makes no representations or warranties of any kind concerning this data.

# MAGNA INDUSTRIAL CO. LIMITED

*Total Quality Maintenance*

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## MATERIAL SAFETY DATA SHEET

DATE 01 Aug 2014

### SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

**Product Name/Code** CORIUM 168

#### Company Identification

Omega Manufacturing Division,  
Magna Industrial Co. Limited,  
1801, Guardian House,  
32 Oi Kwan Road,  
Wanchai, Hong Kong.

#### Distributor

Alshawi Trading,  
Block 351, Road 51, Bldg 20, Manama - Bahrain.  
[www.alshawitrading.com](http://www.alshawitrading.com)  
[info@alshawitrading.com](mailto:info@alshawitrading.com)  
P.O.Box 33526

Telephone (852) 25775187  
Fax (852) 25773190

Telephone (973) 1755 0019  
Fax (973) 1755 5108

### SECTION 2 - HAZARDS IDENTIFICATION

Harmful product

### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Ingredients</u> | <u>CAS Number</u> | <u>Wt.%</u> | <u>Classification</u>   |
|--------------------|-------------------|-------------|---|
| 1 – Bromopropane   | 106-94-5          | 60-100      | F;R11<br>Rep. Cat. 2; R60<br>Rep. Cat. 3; R63<br>Xn;R48/20<br>Xi;R36/37/38<br>R67 |
| Carbon dioxide     | 124-38-9          | 3-7         | -   |
| 1,2-Epoxybutane    | 106-88-7          | 1-3         | F;R11 Carac 3;R40<br>Xn;R20/21/22<br>Xi;R36/37/38<br>R52-53                       |

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## SECTION 4 - FIRST-AID MEASURES

Eye Contact: Flush with plenty of water for at least 15 minutes. Seek immediate medical attention.

Skin Contact: Wash thoroughly with soap and water. Obtain medical attention in case of skin irritation or other cause for concern.

Inhalation: Move patient to open air.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

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## SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical, water fog, foam, sand and carbon dioxide.

Special Protective Equipment for Fire Fighters: Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: At elevated temperature (over 50C) cans may burst, vent or rupture.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spillage: Avoid breathing vapours. Ventilate area. Remove all sources of ignition. Clean up area with absorbent material and place in closed containers for disposal in accordance with local and national regulations.

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## SECTION 7 - HANDLING AND STORAGE

Do not incinerate containers. Store in place where temperature may not exceed 50°C. Do not stick pin, nail or any other sharp object into opening on top of can. Do not spray in eyes. Do not take internally.

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## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### ACGIH TLV

1 – Bromopropane

10ppm



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Carbon dioxide 5000 ppm

Eye Protection: Safety goggles and full-face shield  
Hand Protection: Rubber or plastic oil resistant gloves.  
Ventilation: Use under well ventilated conditions.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colourless to pale liquid  
Odour: Strong characteristic odour  
pH: N.A.  
Specific Gravity: 1.33  
Vapour Pressure: ~111mmHg at 20°C.  
Boiling Point: 70°C  
Melting Point: -110°C.  
Flash Point: None (Tag Closed Cup)  
Flammability: Non-flammable liquid.  
Evaporation Rate: 6 (BuAc = 1)  
Solubility in Water: 0.24g/100ml at 25°C

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## SECTION 10 - STABILITY AND REACTIVITY

Stable

Materials to Avoid: Strong oxidizing agents, strong bases)

Toxic compounds may form on thermal decomposition. Hazardous combustion products: Carbon dioxide, carbon monoxide, hydrogen bromide and bromine.

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## SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity: 1-Bromopropane: LD50/oral/rats = 4260mg/kg

Inhalation: Inhalation of vapours can cause irritation of the respiratory tract. Do not breathe spray or vapours.

Skin: May cause irritation, drying and cracking.

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Eyes: Cause irritation.

Ingestion: Not a likely route of exposure. If swallowed, may cause irritation in mouth and stomach, thirst, nausea, vomiting, diarrhoea, with possible collapse if large amounts ingested. Aspiration of material upon vomiting may cause chemical pneumonitis.

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## SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Mobility: No data available.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

Comply with all local and national regulations regarding disposal.

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## SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name : AEROSOLS, NON-FLAMMABLE (NON-FLAMMABLES GAS).

UN Number: 1950

IATA Class: 2.2, Packing Group: None

IMDG Class: 2.2, Packing Group: None

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## SECTION 15 - REGULATORY INFORMATION

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## SECTION 16 - OTHER INFORMATION

R-phrases: R11 -High flammable.  
R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.  
R36/37/38 - Irritating to eyes, respiratory system and skin  
R40 – Limited evidence of a carcinogenic effect.  
R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R52/53 – Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R60 - May impart fertility.

R63 - Possible risk of harm to the unborn child.

R67 - Vapour may cause drowsiness and dizziness.

S-phrases: S45 - In case of accident or if you feel unwell seek medical advice immediately.

S53 - Avoid exposure – Obtain special instructions before use

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**Remarks:** We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.