Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
DEVCON FLEXANE BRUSHABLE CURING AGENT

SYNONYMS
"PART: D15350"

PROPER SHIPPING NAME
COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)(contains propylene glycol monomethyl ether acetate, alpha-isomer)

PRODUCT USE
The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.

Curing agent component of two part polyurethane system.

SUPPLIER
Company: ITW POLYMERS AND FLUIDS
Address:
100 Hassall Street
Wetherill Park
NSW 2164
Australia
Telephone: +61 2 9757 8800
Emergency Tel: 1800 039 008
Emergency Tel: +61 3 9573 3112
Fax: +61 2 9757 3855

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

RISK
■ Flammable.
■ Harmful in contact with skin and if swallowed.
■ Irritating to eyes.
■ Limited evidence of a carcinogenic effect.
■ Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
■ May cause harm to the unborn child.
■ Vapours may cause drowsiness and dizziness.

SAFETY
■ Keep locked up.
■ Do not breathe gas/fumes/vapour/spray.
■ Avoid contact with skin.
■ Avoid contact with eyes.
■ Wear suitable protective clothing.
■ In case of insufficient ventilation, wear suitable respiratory equipment.
■ Wear suitable gloves.
■ Wear eye/face protection.
■ Avoid exposure - obtain special instructions before use.
■ Do not empty into drains.
Section 2 - HAZARDS IDENTIFICATION

• To clean the floor and all objects contaminated by this material, use water.
• This material and its container must be disposed of in a safe way.
• Keep away from food, drink and animal feeding stuffs.
• In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
• Use appropriate container to avoid environmental contamination.
• Avoid release to the environment. Refer to special instructions/Safety data sheets.
• This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS RN</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>propylene glycol monomethyl ether acetate, alpha-isomer</td>
<td>108-65-6</td>
<td>&gt;60</td>
</tr>
<tr>
<td>diethyltoluenediamine</td>
<td>68479-98-1</td>
<td>10-30</td>
</tr>
<tr>
<td>soybean oil, epoxidised</td>
<td>8013-07-8</td>
<td>1-5</td>
</tr>
<tr>
<td>carbon black</td>
<td>1333-86-4</td>
<td>1-5</td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES

SWALLOWED
• If swallowed do NOT induce vomiting.
• If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
• Observe the patient carefully.
• Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

EYE
■ If this product comes in contact with the eyes:
  • Immediately hold eyelids apart and flush the eye continuously with running water.
  • Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
  • Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
  • Transport to hospital or doctor without delay.

SKIN
■ If skin contact occurs:
  • Immediately remove all contaminated clothing, including footwear.
  • Flush skin and hair with running water (and soap if available).
  • Seek medical attention in event of irritation.

INHALED
• If fumes or combustion products are inhaled remove from contaminated area.
• Lay patient down. Keep warm and rested.
• Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
• Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN
Treat symptomatically.
The material may induce methaemoglobinaemia following exposure.
• Initial attention should be directed at oxygen delivery and assisted ventilation if necessary. Hyperbaric oxygen has not demonstrated substantial benefits.
• Hypotension should respond to Trendelenburg’s position and intravenous fluids; otherwise dopamine may be needed.
• Symptomatic patients with methaemoglobin levels over 30% should receive methylene blue. (Cyanosis, alone, is not an indication for treatment). The usual dose is 1-2 mg/kg of a 1% solution (10 mg/ml) IV over 50 minutes; repeat, using the same dose, if symptoms of hypoxia fail to subside within 1 hour.
• Thorough cleansing of the entire contaminated area of the body, including the scalp and nails, is of utmost importance.

continued...
Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

FIRE/EXPLOSION HAZARD
- Liquid and vapour are flammable.
- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Moderate explosion hazard when exposed to heat or flame.

Combustion products include: carbon dioxide (CO2), nitrogen oxides (NOx), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY
- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM
• 3Y

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

MAJOR SPILLS
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

SUITABLE CONTAINER
- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- Check that containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY
- Avoid reaction with oxidising agents.
STORAGE REQUIREMENTS
• Store in original containers in approved flammable liquid storage area.
• Store away from incompatible materials in a cool, dry, well-ventilated area.
• DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
• No smoking, naked lights, heat or ignition sources.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

<table>
<thead>
<tr>
<th>Source</th>
<th>Material</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
<th>Peak ppm</th>
<th>Peak mg/m³</th>
<th>TWA F/CC</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>propylene glycol monomethyl ether acetate, alpha-isomer (1-Methoxy-2-propanol acetate)</td>
<td>50</td>
<td>274</td>
<td>100</td>
<td>548</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>carbon black (Carbon black)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following materials had no OELs on our records
• diethyltoluenediamine: CAS:68479- 98- 1
• soybean oil, epoxidised: CAS:8013- 07- 8

MATERIAL DATA
DIETHYLTOLUENEDIAMINE:

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers’ responses to various airborne concentrations.

DEVCON FLEXANE BRUSHABLE CURING AGENT:
Not available

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER:

for propylene glycol monomethyl ether acetate (PGMEA)
Saturated vapour concentration: 4868 ppm at 20 C.
A two-week inhalation study found nasal effects to the nasal mucosa in animals at concentrations up to 3000 ppm.

DIETHYLTOLUENEDIAMINE:

CEL TWA: 0.02 ppm, 0.145 mg/m3 [BAYER]

CARBON BLACK:
The TLV-TWA for carbon black is recommended to minimise complaints of excessive dirtiness and applies only to commercially produced carbon blacks or to soots derived from combustion sources containing absorbed polycyclic aromatic hydrocarbons (PAHs). When PAHs are present in carbon black (measured as the cyclohexane-extractable fraction) NIOSH has established a REL-TWA of 0.1 mg/m3 and considers the material to be an occupational carcinogen.
The NIOSH REL-TWA was "selected on the basis of professional judgement rather than on data delineating safe from unsafe concentrations of PAHs".
This limit was justified on the basis of feasibility of measurement and not on a demonstration of its safety.

PERSONAL PROTECTION

RESPIRATOR
• Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE
• Safety glasses with side shields.
• Chemical goggles.
• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a
review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1338 or national equivalent].

HANDS/FEET

• Wear chemical protective gloves, e.g. PVC.
• Wear safety footwear or safety gumboots, e.g. Rubber.

OTHER

• Overalls.
• PVC Apron.
• PVC protective suit may be required if exposure severe.
• Eyewash unit.

ENGINEERING CONTROLS

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

APPEARANCE

Black viscous flammable liquid with pungent odour; mixes with water.

PHYSICAL PROPERTIES

Mixes with water.

<table>
<thead>
<tr>
<th>State</th>
<th>LIQUID</th>
<th>Molecular Weight</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting Range (°C)</td>
<td>Not Available</td>
<td>Viscosity</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Range (°C)</td>
<td>&gt;149</td>
<td>Solubility in water (g/L)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>&gt;45</td>
<td>pH (1% solution)</td>
<td>~7.5% soln.</td>
</tr>
<tr>
<td>Decomposition Temp (°C)</td>
<td>Not Available</td>
<td>pH (as supplied)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Autoignition Temp (°C)</td>
<td>Not Available</td>
<td>Vapour Pressure (kPa)</td>
<td>0.493 @ 20°C</td>
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<tr>
<td>Upper Explosive Limit (%)</td>
<td>Not Available</td>
<td>Specific Gravity (water=1)</td>
<td>1.06</td>
</tr>
<tr>
<td>Lower Explosive Limit (%)</td>
<td>Not Available</td>
<td>Relative Vapour Density (air=1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Volatile Component (%vol)</td>
<td>VOC 679 g/L</td>
<td>Evaporation Rate</td>
<td>&lt;1 BuAC = 1</td>
</tr>
</tbody>
</table>

CONDITIONS CONTRIBUTING TO INSTABILITY

• Presence of incompatible materials.
• Product is considered stable.
• Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The substance and/or its metabolites may bind to haemoglobin inhibiting normal uptake of oxygen. This condition, known as
"methaemoglobinemia", is a form of oxygen starvation (anoxia).<</>. Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucus. If death does not occur within 24 hours there may be an improvement in the patients condition for 2-4 days only to be followed by the sudden onset of abdominal pain, boardlike abdominal rigidity or hypo-tension; this indicates that delayed gastric or oesophageal corrosive damage has occurred.

EYE
- This material can cause eye irritation and damage in some persons.
Vapours of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in "halos" around lights. This effect is temporary, lasting only for a few hours. However this condition can reduce the efficiency of undertaking skilled tasks, such as driving a car. Direct eye contact with liquid volatile amines may produce eye damage, permanent for the lighter species.

SKIN
- Skin contact with the material may be harmful; systemic effects may result following absorption.
The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals. Cutaneous reactions include erythema, intolerable itching and severe facial swelling. Blistering, with weeping of serous fluid, and crustng and scaling may also occur. Individuals exhibiting "amine dermatitis" may experience a dramatic reaction upon re-exposure to minute quantities. Highly sensitive persons may even react to cured resins containing trace amounts of unreacted amine hardener. Minute quantities of air-borne amine may precipitate intense dermatological symptoms in sensitive individuals. Prolonged or repeated exposure may produce tissue necrosis.

INHALED
- Inhalation hazard is increased at higher temperatures.
Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.
Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.
If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.
Inhalation of epoxy resin amine hardeners (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting several days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

CHRONIC HEALTH EFFECTS
- There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.
There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.
Most arylamines are very toxic to the blood cell-forming system, and they produce methaemoglobinemia in humans. High doses congest the spleen and then cause formation of sarcomas (a type of malignant tumour). Single ring aromatic amines have relatively weak cancer-causing properties, and in animal testing are only harmful in large doses. The polycyclic aromatic amines show a wide range of cancer-causing activity, partly dependent on the position where benzene rings are substituted and the nature of the substituent.
Most monocyclic arylamines cause deposition of iron-containing proteins in tissues and organs. They cause genetic toxicity and acute toxic effects, but it is not clear whether this is influenced by iron release during the formation of methaemoglobin or red blood cell turnover and the stress associated with these processes. In any case, toxic tissue changes and scarring occur before the development of tumours in the spleen, liver and kidneys.
Some glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous. Higher concentrations and prolonged exposure can cause blood in the urine.

TOXICITY AND IRRITATION
- Not available. Refer to individual constituents.

CARCINOGEN

<table>
<thead>
<tr>
<th>Substance</th>
<th>International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs</th>
<th>Group</th>
<th>2B</th>
<th>Possibly carcinogenic to humans</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbon black</td>
<td></td>
<td>2B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SKIN
Section 11 - TOXICOLOGICAL INFORMATION

propylene glycol monomethyl ether acetate, alpha- isomer
GESAMP/EHS Composite List - GESAMP Hazard Profiles
D1: skin irritation/corrosion

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
<th>Bioaccumulation</th>
<th>Mobility</th>
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</thead>
<tbody>
<tr>
<td>propylene glycol monomethyl ether acetate, alpha- isomer</td>
<td>HIGH</td>
<td>No Data</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>diethylnitramine</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>soybean oil, epoxidised</td>
<td>Available</td>
<td>Available</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td>carbon black</td>
<td>Available</td>
<td>No Data</td>
<td>Available</td>
<td>Available</td>
</tr>
</tbody>
</table>

Section 13 - DISPOSAL CONSIDERATIONS

• Recycle wherever possible.
• Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
• Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material).
• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID

HAZCHEM:
• 3Y  (ADG7)

ADG7:
Class or Division: 3
UN No.: 1139
Special Provision: 223
Portable Tanks & Bulk: T2
Containers - Instruction: None
Packagings & IBCs - Packing Instruction: P001 IBC03
Packagings & IBCs - Special Provision: None
Name and Description: COATINGSOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (contains propylene glycol monomethyl ether acetate, alpha-isomer)

continued...
Section 14 - TRANSPORTATION INFORMATION

Air Transport IATA:
ICAO/IATA Class: 3  ICAO/IATA Subrisk:  None
UN/ID Number: 1139  Packing Group:  III
Special provisions: A3

Shipping name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (contains propylene glycol monomethyl ether acetate, alpha-isomer)

Maritime Transport IMDG:
IMDG Class: 3  IMDG Subrisk:  None
UN Number: 1139  Packing Group:  III
EMS Number: F-E-S-E  Special provisions: 955
Limited Quantities: 5 L  Marine Pollutant:  Yes

Shipping name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (contains propylene glycol monomethyl ether acetate, alpha-isomer)

Section 15 - REGULATORY INFORMATION

Indications of Danger:
N Dangerous for the environment
T Toxic

POISONS SCHEDULE
S5

REGULATIONS

Regulations for ingredients

propylene glycol monomethyl ether acetate, alpha-isomer (CAS: 108-65-6, 84540-57-8, 142300-82-1) is found on the following regulatory lists;

diethyltoluenediamine (CAS: 68479-98-1) is found on the following regulatory lists;
"Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix C", "OECD List of High Production Volume (HPV) Chemicals"

soybean oil, epoxidised (CAS: 8013-07-8) is found on the following regulatory lists;
"Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals", "Sigma-AldrichTransport Information"

carbon black (CAS: 1333-86-4) is found on the following regulatory lists;

No data for Devcon Flexane Brushable Curing Agent (CW: 6902759)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS</th>
<th>Suggested codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>propylene glycol monomethyl ether acetate, alpha-isomer</td>
<td>84540-57-8</td>
<td>Mut3; R68</td>
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</tbody>
</table>
### INGREDIENTS WITH MULTIPLE CAS NUMBERS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS</th>
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<tbody>
<tr>
<td>propylene glycol monomethyl ether acetate, alpha-isomer</td>
<td>108-65-6, 84540-57-8, 142300-82-1</td>
</tr>
</tbody>
</table>

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references. A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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Issue Date: 25-Jan-2013
Print Date: 29-May-2013

This is the end of the MSDS.
Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
DEVCON FLEXANE BRUSHABLE RESIN

SYNONYMS
"PART: D15350"

PROPER SHIPPING NAME
COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)

PRODUCT USE
The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. Resin component of two part polyurethane system.

SUPPLIER
Company: ITW POLYMERS AND FLUIDS
Address:
100 Hassall Street
Wetherill Park
NSW 2164
Australia
Telephone: +61 2 9757 8800
Emergency Tel: 1800 039 008
Emergency Tel: +61 3 9673 3112
Fax: +61 2 9757 3855

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

RISK
■ Highly flammable.
■ Reacts violently with water.
■ Harmful by inhalation.
■ Irritating to eyes, respiratory system and skin.
■ Limited evidence of a carcinogenic effect.
■ May cause SENSITISATION by inhalation and skin contact.
■ Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
■ Possible risk of harm to the unborn child.
■ HARMFUL- May cause lung damage if swallowed.
■ Repeated exposure may cause skin dryness and cracking.
■ Vapours may cause drowsiness and dizziness.

SAFETY
• Never add water to this product.
• Keep away from sources of ignition. No smoking.
• Do not breathe gas/fumes/vapour/spray.
• Avoid contact with skin.
• Avoid contact with eyes.
• Wear suitable protective clothing.
• Wear suitable gloves.
• Wear eye/face protection.
• Keep container dry.
• Use only in well ventilated areas.
• Keep container in a well ventilated place.

continued...
Section 2 - HAZARDS IDENTIFICATION

- Avoid exposure - obtain special instructions before use.
- Do not empty into drains.
- Keep container tightly closed.
- Keep away from food, drink and animal feeding stuffs.
- In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
- This material and its container must be disposed of as hazardous waste.
- In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS RN</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethyl acetate</td>
<td>141-78-6</td>
<td>10-30</td>
</tr>
<tr>
<td>4, 4' - diphenylmethane disocyanate (MDI)</td>
<td>101-68-8</td>
<td>1-5</td>
</tr>
<tr>
<td>methylene bis(4-cyclohexylisocyanate)</td>
<td>5124-30-1</td>
<td>1-5</td>
</tr>
<tr>
<td>isophorone diisocyanate</td>
<td>4098-71-9</td>
<td>1-5</td>
</tr>
<tr>
<td>cyclohexanone</td>
<td>108-94-1</td>
<td>1-5</td>
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<tr>
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<td>balance</td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES

SWALLOWED
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

EYE
- If this product comes in contact with the eyes:
  - Immediately hold eyelids apart and flush the eye continuously with running water.
  - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
  - Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
  - Transport to hospital or doctor without delay.

SKIN
- If skin contact occurs:
  - Immediately remove all contaminated clothing, including footwear.
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

INHALED
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN
Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.

for simple esters:

BASIC TREATMENT

continued...
**Section 4 - FIRST AID MEASURES**

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema.
- For sub-chronic and chronic exposures to isocyanates:
  - This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.

**Section 5 - FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA**
- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

**FIRE FIGHTING**
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water course.

**FIRE/EXPLOSION HAZARD**
- Liquid and vapour are highly flammable.
- Severe fire hazard when exposed to heat, flame and/or oxidisers.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- Combustion products include: carbon dioxide (CO2), isocyanates, and minor amounts of, hydrogen cyanide, nitrogen oxides (NOx), other pyrolysis products typical of burning organic material.
- Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.
- When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur.
- Burns with acrid black smoke.

**FIRE INCOMPATIBILITY**
- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

**HAZCHEM**
- 3YE

**Section 6 - ACCIDENTAL RELEASE MEASURES**

**MINOR SPILLS**
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

**MAJOR SPILLS**
- Liquid isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit when this exposure may occur.
- For isocyanate spills of less than 40 litres (2 m²):
  - Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.
- Notify supervision and others as necessary.
- Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots).
- Control source of leakage (where applicable).
- Avoid contamination with water, alkalies and detergent solutions.
DEVCN FLEXANE BRUSHABLE RESIN

Section 6 - ACCIDENTAL RELEASE MEASURES

• Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.
• DO NOT reseal container if contamination is suspected.
• Open all containers with care.
• Clear area of personnel and move upwind.
• Alert Fire Brigade and tell them location and nature of hazard.
• May be violently or explosively reactive.
• Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
• Containers, even those that have been emptied, may contain explosive vapours.
• Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
Contains low boiling substance:
Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.
• Check for bulging containers.
• Vent periodically.
• Always release caps or seals slowly to ensure slow dissipation of vapours.
• DO NOT allow clothing wet with material to stay in contact with skin.
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Prevent concentration in hollows and sumps.

SUITABLE CONTAINER
• Packing as supplied by manufacturer.
• Plastic containers may only be used if approved for flammable liquid.
• Check that containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY
• Esters react with acids to liberate heat along with alcohols and acids.
• Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.
• Heat is also generated by the interaction of esters with caustic solutions.
• Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.
• Avoid reaction with water, alcohols and detergent solutions.
• Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, strong bases, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidisers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerisation reactions in these materials.
• Isocyanates easily form adducts with carbodiimides, isothiocyanates, ketenes, or with substrates containing activated CC or CN bonds.
• Some isocyanates react with water to form amines and liberate carbon dioxide. This reaction may also generate large volumes of foam and heat. Foaming in confined spaces may produce pressure in confined spaces or containers. Gas generation may pressurise drums to the point of rupture.
• A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.
• The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.
• For example, in "open vessel processes" (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in "closed vessel processes" (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.

STORAGE REQUIREMENTS
• Store in original containers in approved flame-proof area.
• No smoking, naked lights, heat or ignition sources.
• DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
• Keep containers securely sealed.

continued...
### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

#### EXPOSURE CONTROLS

<table>
<thead>
<tr>
<th>Source</th>
<th>Material</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
<th>Peak ppm</th>
<th>Peak mg/m³</th>
<th>TWA F/CC</th>
<th>Notes</th>
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<td>200</td>
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<td>400</td>
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<td>0.07</td>
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<tr>
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<td>25</td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

#### MATERIAL DATA

**CYCLOHEXANONE:**

Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded. Odour Safety Factor (OSF) is determined to fall into either Class A or B.

The Odour Safety Factor (OSF) is defined as:

\[
OSF = \frac{\text{Exposure Standard (TWA) ppm}}{\text{Odour Threshold Value (OTV) ppm}}
\]

Classification into classes follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>OSF</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>550</td>
<td>Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities</td>
</tr>
<tr>
<td>B</td>
<td>26-550</td>
<td>As &quot;A&quot; for 50-90% of persons being distracted</td>
</tr>
<tr>
<td>C</td>
<td>1-26</td>
<td>As &quot;A&quot; for less than 50% of persons being distracted</td>
</tr>
<tr>
<td>D</td>
<td>0.18-1</td>
<td>10-50% of persons aware of being tested percieve by smell that the Exposure Standard is being reached</td>
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<tr>
<td>E</td>
<td>&lt;0.18</td>
<td>As &quot;D&quot; for less than 10% of persons aware of being tested</td>
</tr>
</tbody>
</table>

**ETHYL ACETATE:**

For ethyl acetate:

Odour Threshold Value: 6.4-50 ppm (detection), 13.3-75 ppm (recognition)

The TLV-TWA provides a significant margin of safety from the standpoint of adverse health effects. Unacclimated subjects found the odour objectionably strong at 200 ppm.

signs or symptoms.

**4,4'-DIPHENYL METHANE DIISOCYANATE (MDI):**

for diphenylmethane diisocyanate (methylene bisphenyl isocyanate; MDI)

Odour Threshold Value: 0.39 ppm

IDLH Level: 10 mg/m³

Mean MDI exposures of less than 0.003 ppm appear to have no acute or chronic effect on pulmonary function. MDI produces identical toxicological responses to those produced by TDI and the recommended TLV-TWA is identical for the two isocyanates.

**METHYLENE BIS(4-CYCLOHEXYLISOCYANATE):**
Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

for methylene bis(4-cyclohexylisocyanate):

The TLV-TWA is thought to be protective against the significant risk of eye, skin and pulmonary irritation. Individuals who may be hypersusceptible or otherwise unusually responsive to exposure to industrial chemicals may not be adequately protected at this limit.

ISOPHORONE DIISOCYANATE:

For isophorone diisocyanate:

Toxicological action is similar to toluene diisocyanate (TDI) and the recommended TLV-TWA for TDI is applied to isophorone diisocyanate until further information is available.

Because skin sensitisation, allergic dermatitis and asthma have been reported amongst exposed workers, individuals who may be hypersusceptible or otherwise unusually responsive to chemicals may NOT be adequately protected from adverse health effects at concentrations at or below the recommended TLV.

CYCLOHEXANONE:

For cyclohexanone

- Odour Threshold Value: 0.12 ppm (detection and recognition)
- Exposure at the TLV-TWA produces minimal irritation and this limit is significantly lower than the concentration reported to just induce demonstrable changes in the liver and kidneys of rabbits repeatedly exposed to the substance (190 ppm).

- Odour Safety Factor (OSF) = 28 (CYCLOHEXANONE).

PERSONAL PROTECTION

RESPIRATOR


EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber.

NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
- The selection of the suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- The exact breakthrough time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:.
- Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.
- Protective gloves and overalls should be worn as specified in the appropriate national standard.
- Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.
- NOTE: Natural rubber, neoprene, PVC can be affected by isocyanates.

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets), non sparking safety footwear.

ENGINEERING CONTROLS

- Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

continued...
Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Refer also to protective measures for the other component used with the product. Read both MSDS before using; store and attach MSDS together.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Clear highly flammable liquid with solvent odour. React violently with water.

PHYSICAL PROPERTIES
Liquid.
Toxic or noxious vapours/gas.
Reacts violently with water.

<table>
<thead>
<tr>
<th>State</th>
<th>Liquid</th>
<th>Molecular Weight</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting Range (°C)</td>
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<td>Viscosity</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Range (°C)</td>
<td>78</td>
<td>Solubility in water (g/L)</td>
<td>Reacts violently</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>- 4</td>
<td>pH (1% solution)</td>
<td>7 conc soln.</td>
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<tr>
<td>Decomposition Temp (°C)</td>
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<td>pH (as supplied)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition Temp (°C)</td>
<td>Not available.</td>
<td>Vapour Pressure (kPa)</td>
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</tr>
<tr>
<td>Upper Explosive Limit (%)</td>
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<td>Specific Gravity (water=1)</td>
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<tr>
<td>Lower Explosive Limit (%)</td>
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<td>Relative Vapour Density (air=1)</td>
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<tr>
<td>Volatile Component (%vol)</td>
<td>21</td>
<td>Evaporation Rate</td>
<td>4.1 BuAC = 1</td>
</tr>
</tbody>
</table>

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY
• Presence of incompatible materials.
• Product is considered stable.
• Hazardous polymerisation will not occur.
For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
■ Accidental ingestion of the material may be damaging to the health of the individual.
The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes may occur. Respiratory symptoms may include irritation, shortness of breath, rapid breathing, throat inflammation, bronchitis, lung inflammation and pulmonary oedema, sometimes delayed. Nausea, vomiting, diarrhoea and cramps are observed. Liver and kidney damage may result from massive exposures.

EYE
■ This material can cause eye irritation and damage in some persons.

SKIN
■ This material can cause inflammation of the skin on contact in some persons.
The material may accentuate any pre-existing dermatitis condition. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED
■ Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects.

continued...
The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Inhalation hazard is increased at higher temperatures. The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety, depression, and paranoia. The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes may occur. Respiratory symptoms may include irritation, shortness of breath, rapid breathing, throat inflammation, bronchitis, lung inflammation and pulmonary oedema, sometimes delayed. Nausea, vomiting, diarrhoea and cramps are observed. Liver and kidney damage may result from massive exposures. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.

**CHRONIC HEALTH EFFECTS**

- Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Inhalation this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. [CCTRADE-Bayer, APMF]. Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping. Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. Sensitised persons should not be allowed to work in situations where exposure may occur. Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia. Digestive effects include nausea and vomiting. Breathing difficulties may occur unpredictably after a period of tolerance and after skin contact. Allergic inflammation of the skin can occur, with rash, itching, blistering, and swelling of the hands and feet. Sensitive people can react to very low levels and should not be exposed to this material.

**TOXICITY AND IRRITATION**

No data for this material.

**CARCINOGEN**

<table>
<thead>
<tr>
<th>Compound</th>
<th>Group</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4, 4’ - diphenylmethane diisocyanate (MDI)</td>
<td>3</td>
<td>Not classifiable as to its carcinogenicity to humans</td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td>3</td>
<td>Not classifiable as to its carcinogenicity to humans</td>
</tr>
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</table>

**SKIN**

<table>
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<tr>
<th>Compound</th>
<th>Hazard Classification</th>
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<tr>
<td>Ethyl acetate</td>
<td>D1: skin irritation/corrosion 0</td>
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<tr>
<td>4, 4’ - diphenylmethane diisocyanate (MDI)</td>
<td>D1: skin irritation/corrosion 2</td>
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<tr>
<td>Isophorone diisocyanate</td>
<td>D1: skin irritation/corrosion 3</td>
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<tr>
<td>Cyclohexanone</td>
<td>Notes Sk</td>
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</table>

continued...
Section 11 - TOXICOLOGICAL INFORMATION

cyclohexanone GESAMP/EHS Composite List - GESAMP Hazard Profiles D1: skin irritation/corrosion 2

Section 12 - ECOLOGICAL INFORMATION

Section 13 - DISPOSAL CONSIDERATIONS

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID

HAZCHEM:

+3YE (ADG7)

ADG7:

Class or Division: 3 Subsidiary Risk: None
UN No.: 1139 Packing Group: II
Special Provision: None Limited Quantity: 5 L
Portable Tanks & Bulk Containers - Instruction: TP1 TP8
Packagings & IBCs - Packing Provision: None
Name and Description: COATINGSOLUTION (includes surfacetreatments or
Section 14 - TRANSPORTATION INFORMATION

coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)

Air Transport IATA:
ICAO/IATA Class: 3 ICAO/IATA Subrisk: None
UN Number: 1139 Packing Group: II
Special provisions: A3

Shipping name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)

Maritime Transport IMDG:
IMDG Class: 3 IMDG Subrisk: None
UN Number: 1139 Packing Group: II
EMS Number: F-E,S-E Special provisions: None
Limited Quantities: 5 L

Shipping name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)

Section 15 - REGULATORY INFORMATION

Indications of Danger:
F Highly Flammable
Xn Harmful

POISONS SCHEDULE
S6

REGULATIONS

Regulations for ingredients
ethyl acetate (CAS: 141-78-6) is found on the following regulatory lists;

4, 4'-diphenylmethane diisocyanate (MDI) (CAS: 101-68-8, 26447-40-5) is found on the following regulatory lists;
methylene bis(4-cyclohexylisocyanate) (CAS: 5124-30-1, 103072-21-5, 107373-48-8, 135822-12-7, 13622-90-7, 190601-97-9, 201536-77-8, 68966-63-2, 73156-15-7, 88504-76-1) is found on the following regulatory lists:

isophorone diisocyanate (CAS: 4098-71-9) is found on the following regulatory lists;

cyclohexanone (CAS: 108-94-1) is found on the following regulatory lists;

No data for Devcon Flexane Brushable Resin (CW: 31233)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS</th>
<th>Suggested codes</th>
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<tr>
<td>4, 4'-diphenylmethane diisocyanate (MDI)</td>
<td>26447-40-5</td>
<td>R43</td>
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INGREDIENTS WITH MULTIPLE CAS NUMBERS

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<tr>
<th>Ingredient Name</th>
<th>CAS</th>
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<tbody>
<tr>
<td>4,4'-diphenylmethane diisocyanate (MDI)</td>
<td>101-68-8, 26447-40-5</td>
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<tr>
<td>methylene bis(4-cyclohexylisocyanate)</td>
<td>5124-30-1, 103072-21-5, 107373-48-8, 135822-12-7, 13622-90-7, 190601-97-9, 201536-77-8, 68966-63-2, 73156-15-7, 88504-76-1</td>
</tr>
</tbody>
</table>

continued...
Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references. A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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This is the end of the MSDS.