

EU Material Safety Data Sheet
According to 91/155 EC & 93/112 EWG

Printing date 01.04.2003

Reviewed on 01.04.2003





1 Identification of substance:

- **Product details:**
- **Trade name:** Cramolin Plastik
- **Article number:** 120 Aerosol
- **Application of the substance / the preparation:**
Transparent Protective Conformal Coating for PC Boards and Electronic Components.
- **Manufacturer/Supplier:**
ITW Chemische Produkte GmbH
Mühlacker Str. 149
D-75417 Mühlacker
Tel: +49 7041 96340
Fax: +49 7041 963429
E-Mail: info@cramolin.de
Internet: www.carmolin.de
- **Informing department:** Product safety department
- **Emergency information:**
ITW Chemische Produkte GmbH
Tel: +49 7041 96340

2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with harmless additions.

· **components:**

CAS: 123-86-4 EINECS: 204-658-1	n-butyl acetate	R 10-66-67	25-50%
CAS: 106-97-8 EINECS: 203-448-7	butane, pure	 F+; R 12	10-25%
CAS: 67-64-1 EINECS: 200-662-2	acetone	 Xi,  F; R 11-36-66-67	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxypropan-2-ol	R 10	10-25%
CAS: 74-98-6 EINECS: 200-827-9	propane liquefied	 F+; R 12	2.5-10%

- **Additional information** For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- **Hazard designation:**



F+ Extremely flammable

- **Information pertaining to particular dangers for man and environment**
The marking is valid for all pressurized container up to 50ml carrying capacity.
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
Warning! Pressurized container.
Has a narcotizing effect.

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- R 12 Extremely flammable.
- R 67 Vapours may cause drowsiness and dizziness.
- Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C.
- Do not pierce or burn, even after use.
- Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.
- Buildup of explosive mixtures possible without sufficient ventilation.
- Keep out of the reach of children
- **Classification system**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness bring patient into stable side position for transport.
- **After skin contact**
Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing** Do not induce vomiting; instantly call for medical help.

5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fire with alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents**
Water.
Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:**
Put on breathing apparatus.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered containers with water spray jet.

6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
- **Measures for environmental protection:**
Do not allow to enter drainage system, surface or ground water.
- **Measures for cleaning/collecting:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents

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- Absorb liquid components with liquid-binding material.
Dispose of the material collected according to regulations.
- **Additional information:** See Section 7 for information on safe handling

7 Handling and storage

- **Handling**
- **Information for safe handling:**
 - Store in cool, dry place in tightly closed containers.
 - Keep away from heat and direct sunlight.
 - Open and handle container with care.
- **Information about protection against explosions and fires:**
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
 - Beware: Container is pressurized. Keep away from direct sun exposure and temperatures over 50°C. Do not open by force or throw into fire even after use.
 - Do not spray on flames or red-hot objects.
- **Storage**
- **Requirements to be met by storerooms and containers:**
 - Store in cool location.
 - Store only in the original container.
 - Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
 - Store in cool, dry conditions in well sealed containers.
 - Protect from heat and direct sunlight.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

123-86-4 n-butyl acetate

OES (Great Britain)	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
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106-97-8 butane, pure

OES (Great Britain)	Short-term value: 1810 mg/m ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm
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67-64-1 acetone

OES (Great Britain)	Short-term value: 3620 mg/m ³ , 1500 ppm Long-term value: 1210 mg/m ³ , 500 ppm IOELV
TLV (European Union)	Long-term value: 1210 mg/m ³ , 500 ppm

107-98-2 1-methoxypropan-2-ol

OES (Great Britain)	Short-term value: 560 mg/m ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm IOELV, Sk
TLV (European Union)	Short-term value: 568 mg/m ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm Skin

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74-98-6 propane liquefied

OES (Great Britain) Asphyxiant

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**

The usual precautionary measures should be adhered to general rules for handling chemicals. Wash hands during breaks and at the end of the work.
- **Breathing equipment:**

Use breathing protection in case of insufficient ventilation. During good ventilation/exhaust or during brief, small load not necessarily
- **Protection of hands:**

Protective gloves.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.
- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed safety glasses.

9 Physical and chemical properties:

General Information

Form: Aerosol
Colour: Colourless
Odour: Characteristic

Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: -44°C

· **Flash point:** -97°C

· **Ignition temperature:** 270°C

· **Self-inflammability:** Product is not self igniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/ steam mixtures is possible.

Critical values for explosion:

Lower: 1.2 Vol %
Upper: 12.8 Vol %

· **Vapour pressure at 20°C:** 240 hPa

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· Density at 20°C	0.78 g/cm ³
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Solvent content: Organic solvents:	90.9 %
· Solids content:	8.3 %

10 Stability and reactivity

- **Thermal decomposition/ Conditions to be avoided:** Protect from heat and direct sunlight.
- **Dangerous reactions** No dangerous reactions with intended storage and use.
- **Dangerous products of decomposition:** none

11 Toxicological information

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** no data available.
- **Primary irritant effect:**
- **on the skin:** no data available.
- **on the eye:** no data available.
- **Sensitization:** No sensitizing effect known.

12 Ecological information:

- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation** Disposal must be made according to official regulations.

· **European waste catalogue**

20 01 27	paint, inks, adhesives and resins containing dangerous substances
16 05 04	gases in pressure containers (including halons) containing dangerous substances

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· Land transport ADR/RID (cross-border)



- ADR/RID-GGVS/E Class: 2.1 F Gases.
- Kemler Number: 23
- UN-Number: 1950
- Packaging group: -
- Label: 2.1
- Designation of goods: 1950 AEROSOLS

· Maritime transport IMDG:



- IMDG Class: 2.1
- UN Number: 1950
- Label: 2.1
- Packaging group: -
- EMS Number: F-D,S-U
- Marine pollutant: No
- Correct technical name: AEROSOLS

· Air transport ICAO-TI and IATA-DGR:



- ICAO/IATA Class: 2.1
- UN/ID Number: 1950
- Label: 2.1
- Packaging group: -
- Correct technical name: AEROSOLS, flammable

15 Regulatory information

· Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· Code letter and hazard designation of product:



F+ Extremely flammable

· Risk phrases:

- 12 Extremely flammable.
- 67 Vapours may cause drowsiness and dizziness.

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· **Safety phrases:**

- 16 Keep away from sources of ignition - No smoking.
- 24/25 Avoid contact with skin and eyes.
- 33 Take precautionary measures against static discharges.
- 43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
- 51 Use only in well-ventilated areas.
- 56 Dispose of this material and its container to hazardous or special waste collection point.

· **Special designation of certain preparations:**

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C.
Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.
Buildup of explosive mixtures possible without sufficient ventilation.
Keep out of the reach of children

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
III	50-100

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Information is based on our current knowledge but does not establish a promise of product characteristics and does not substantiate any contractual legal relationship. Drawing of back-up data file for:

e-lab analysis

Laboratory Engel

Austrian Cooperative Research Institut

Hauptstrasse 24, A-6840 Götzis

E-Mail elab@e-lab.at

Internet: www.e-lab.at

· **Relevant R-phrases**

- 10 Flammable.
- 11 Highly flammable.
- 12 Extremely flammable.
- 36 Irritating to eyes.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

- **Contact:** ITW Chemische Produkte GmbH, D-75417 Mühlacker

GB