

SAFETY DATA SHEET

Bakers No.3 (box = 10LT)

1. Identification of the substance/preparation and of the company/undertaking

Product name : Bakers No.3 (box = 10LT)
Code : 61136
Head Office : **Cookson Electronics** **Manufacturer** : Cookson Electronics Assembly
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Material uses : SOLDERING AGENTS

2. Composition/information on ingredients

Substance/preparation : Preparation

Chemical name*	CAS no.	%	EC Number	Classification
Europe Zinc chloride	7646-85-7	20 - 30	231-592-0	C; R34 N; R50/53
Ammonium chloride	12125-02-9	1 - 5	235-186-4	Xn; R22 Xi; R36
See section 16 for the full text of the R Phrases declared above				

* Occupational Exposure Limit(s), if available, are listed in Section 8

* The classifications listed, indicate the potential hazards of the ingredients

3. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : C; R34
N; R51/53

Effects and symptoms

- Inhalation** : Inhalation of the spray mist may produce severe irritation of respiratory tract, characterised by coughing, choking or shortness of breath. Overexposure by inhalation may cause respiratory irritation.
- Ingestion** : May be fatal if swallowed. May cause burns to mouth, throat and stomach.
- Skin contact** : Hazardous in case of skin contact (corrosive).
- Eye Contact** : Hazardous in case of eye contact (corrosive).
- Toxicity data** : Not available.

4. First aid measures

First-Aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention immediately.

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- Ingestion** : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Obtain medical attention immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin Contact** : In case of contact, immediately flush skin copiously with water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Obtain medical attention immediately.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Cold water may be used. Obtain medical attention immediately.

5. Fire-fighting measures

- Extinguishing media** : Recommended: alcohol resistant foam, CO₂, powders, water spray.
Not to be used : waterjet.
- Hazardous thermal decomposition products** : These products are nitrogen oxides (NO, NO₂...), halogenated compounds, hydrogen chloride. Some metallic oxides.
- Special fire-fighting procedures** : Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Be sure to use an approved/certified respirator or equivalent.
- Recommendations** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

6. Accidental release measures

- Personal Precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Environmental precautions and clean-up methods** : Stop leak if without risk. Absorb with dry earth, sand or other noncombustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapour drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. **Neutralise the residue with a dilute solution of sodium carbonate.**

Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Do not ingest. Do not breathe gas/fumes/vapour/spray. Never add water to this product. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label.
- Hygiene measures** : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.
- Packaging materials**
- Recommended** : Use original container.

8. Exposure controls/personal protection

- Engineering measures** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.
- Hygiene measures** : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Ingredient name

Occupational exposure limits

Europe

Zinc chloride

ACGIH TLV (United States, 9/2004).STEL: 2 mg/m³ 15 minute(s). Form: FumeTWA: 1 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

ACGIH TLV (United States, 9/2004).STEL: 20 mg/m³ 15 minute(s). Form: FumeTWA: 10 mg/m³ 8 hour(s). Form: Fume**Sweden**

Zinc chloride

AFS (Sweden, 3/2000).NGV: 1 mg/m³ 8 hour(s). Form: Respirable fraction**Denmark**

Zinc chloride

Arbejdstilsynet (Denmark, 10/2002).GV: 0.5 mg/m³ 8 hour(s). Form: All formsGV: 0.5 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

Arbejdstilsynet (Denmark, 10/2002).GV: 10 mg/m³ 8 hour(s). Form: Fume**Norway**

Zinc chloride

Arbejdstilsynet (Norway, 12/2003).AN: 1 mg/m³ 8 hour(s). Form: All forms

Ammonium chloride

Arbejdstilsynet (Norway, 12/2003).AN: 10 mg/m³ 8 hour(s). Form: All forms**France**

Zinc chloride

INRS (France, 12/1999).VME: 1 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

INRS (France, 12/1999).VME: 10 mg/m³ 8 hour(s). Form: Fume**Netherlands**

Zinc chloride

Nationale MAC-lijst (Netherlands, 1/2004). Notes:TGG: 1 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

Nationale MAC-lijst (Netherlands, 1/2004). Notes:TGG: 10 mg/m³ 8 hour(s). Form: Fume**Germany****Finland**

Zinc chloride

Työterveyslaitos (Finland, 12/2002).TWA: 1 mg/m³ 8 hour(s). Form: Fume**United Kingdom (UK)**

Zinc chloride

EH40-OES (United Kingdom (UK), 1/2003).STEL: 2 mg/m³ 15 minute(s). Form: FumeTWA: 1 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

EH40-OES (United Kingdom (UK), 1/2003).STEL: 20 mg/m³ 15 minute(s). Form: FumeTWA: 10 mg/m³ 8 hour(s). Form: Fume**Where a MEL has been assigned, exposure should be reduced as low as is reasonably practicable and should not exceed the MEL.****Austria****Switzerland**

Zinc chloride

SUVA (Switzerland, 12/2003).MAK: 1 mg/m³ 8 hour(s). Form: Respirable fraction

Ammonium chloride

SUVA (Switzerland, 1/2003).MAK: 3 mg/m³ 8 hour(s). Form: Respirable fraction**Belgium**

Zinc chloride

Lijst Grenswaarden / Valeurs Limites (Belgium, 10/2003).STEL: 2 mg/m³ 15 minute(s). Form: FumeTWA: 1 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

Lijst Grenswaarden / Valeurs Limites (Belgium, 10/2003).STEL: 20 mg/m³ 15 minute(s). Form: FumeTWA: 10 mg/m³ 8 hour(s). Form: Fume**Czech Republic**

Zinc chloride

178/2001 (Czech Republic, 1/2001).STEL: 2 mg/m³ 10 minute(s). Form: All formsTWA: 1 mg/m³ 8 hour(s). Form: All forms

Ammonium chloride

178/2001 (Czech Republic, 1/2001).STEL: 10 mg/m³ 10 minute(s). Form: All formsTWA: 5 mg/m³ 8 hour(s). Form: All forms

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Ireland

Zinc chloride

NAOSH (Ireland, 1/2002).

OELV: 2 mg/m³ 15 minute(s). Form: Fume

OELV: 1 mg/m³ 8 hour(s). Form: Fume

Ammonium chloride

NAOSH (Ireland, 1/2002).

OELV: 20 mg/m³ 15 minute(s). Form: Fume

OELV: 10 mg/m³ 8 hour(s). Form: Fume

Spain

Zinc chloride

INSHT (Spain, 10/2004).

VLA-EC: 2 mg/m³ 15 minute(s). Form: All forms

VLA-ED: 1 mg/m³ 8 hour(s). Form: All forms

Ammonium chloride

INSHT (Spain, 10/2004).

VLA-EC: 20 mg/m³ 15 minute(s). Form: All forms

VLA-ED: 10 mg/m³ 8 hour(s). Form: All forms

Estonia

Zinc chloride

Sotsiaalminister (Estonia, 9/2001).

TWA: 1 mg/m³ 8 hour(s). Form: Inhalable fraction

Turkey

Zinc chloride

NIOSH REL (United States, 6/2001).

STEL: 2 mg/m³ 15 minute(s). Form: Fume

TWA: 1 mg/m³ 10 hour(s). Form: Fume

Ammonium chloride

NIOSH REL (United States, 6/2001).

STEL: 20 mg/m³ 15 minute(s). Form: Fume

TWA: 10 mg/m³ 10 hour(s). Form: Fume

Lithuania

Zinc chloride

Del Lietuvos Higienos Normos (Lithuania, 12/2001).

TWA: 1 mg/m³ 8 hour(s). Form: Respirable fraction

Ammonium chloride

Del Lietuvos Higienos Normos (Lithuania, 12/2001).

TWA: 10 mg/m³ 8 hour(s). Form: All forms

Poland

Zinc chloride

Ministra Pracy I Polityki Społecznej (Poland, 11/2002).

STEL: 2 mg/m³ 15 minute(s). Form: Smoke

TWA: 1 mg/m³ 8 hour(s). Form: Smoke

Ammonium chloride

Ministra Pracy I Polityki Społecznej (Poland, 11/2002).

STEL: 20 mg/m³ 15 minute(s). Form: Vapor and smoke

TWA: 10 mg/m³ 8 hour(s). Form: Vapor and smoke

Personal protective equipment

Respiratory protection

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: inorganic gases/vapors filter (Type B)FFB2P3 EN405:2002

Hand protection

- : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
4-8 hour(s) (breakthrough time): nitrile rubber

Eye protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Recommended: face shield EN 166 3 9 -B

Skin protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Body: Recommended: overall

Additional Information

- : Not available.

9. Physical and chemical properties

General information

Appearance

Physical state

- : Liquid.

Colour

- : Colourless.

Odour

- : Characteristic.

Important health, safety and environmental information

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pH	: <2 (Conc. (% w/w): 100) [Acidic.]
Boiling point	: 100°C (212°F)
Melting point	May start to solidify at 0°C (32°F) based on data for: water. Weighted average: -0.08°C (31.9°F)
Relative density	: 1.225 (20°C / 68°F)
Solubility	: Easily soluble in cold water, hot water.
Viscosity	: Kinematic: 2 cSt
Evaporation rate (butyl acetate = 1)	: 0.36 (water) compared to (n-BUTYL ACETATE=1)

10. Stability and reactivity

Stability	: The product is stable.
Hazardous decomposition products	: These products are nitrogen oxides (NO, NO ₂ ...), halogenated compounds, hydrogen chloride. Some metallic oxides.

11. Toxicological information

Acute toxicity

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Zinc chloride	LD50	350 mg/kg	Oral	Rat
	LD50	200 mg/kg	Oral	Guinea pig
	LD50	329 mg/kg	Oral	Mouse
Ammonium chloride	LD50	1650 mg/kg	Oral	Rat
	LD50	1300 mg/kg	Oral	Mouse
	LDLo	600 mg/kg	Oral	Dog
	LDLo	1500 mg/kg	Oral	Domestic Animals.

Local effects

Skin irritation	: Hazardous in case of skin contact (corrosive).
Eye irritation	: Hazardous in case of eye contact (corrosive).
Toxicity data	: Not available.

Over-exposure signs/symptoms

Target organs	: Contains material which causes damage to the following organs: lungs, cardiovascular system, upper respiratory tract, skin, eye, lens or cornea.
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12. Ecological information

Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Zinc chloride	Daphnia magna (EC50)	48 hour(s)	2.8 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	0.066 mg/l
	Daphnia magna (LC50)	96 hour(s)	0.06791 mg/l
Ammonium chloride	Oncorhynchus mykiss (LC50)	96 hour(s)	0.08 mg/l
	Pimephales promelas (LC50)	96 hour(s)	0.25 mg/l

Other adverse effects	: Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
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13. Disposal considerations

Methods of disposal ; Waste of residues ; Contaminated packaging	: The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
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Waste classification	: Not applicable.
European waste catalogue (EWC)	: 16 03 03*
Hazardous waste	: Yes.

14. Transport information

International transport regulations

Regulatory Information	UN number	Proper shipping name	Class	Packing group	Label	Additional Information
ADR/RID Class	1760	Corrosive liquid, n.o.s. (Zinc chloride)	8	III		Hazard identification number 80 CEPIC Tremcard 80GC9-III
IMDG Class	1760	Corrosive liquid, n.o.s. (Zinc chloride)	8	III		Emergency schedules (EmS) F-A, S-B
IATA-DGR Class	1760	Corrosive liquid, n.o.s. (Zinc chloride)	8	III		Quantity limitation - Passenger Aircraft 5 L Quantity limitation - Cargo Aircraft 60 L

15. Regulatory information

EU Regulations

Hazard symbol(s)



Corrosive, Dangerous for the environment.

Risk Phrases

: R34- Causes burns.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases

: S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S57- Use appropriate containment to avoid environmental contamination.
S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains

: Zinc chloride 231-592-0

Product use

: Classification and labelling have been performed according to EU directives 67/548/EEC, 1999/45/EC, including amendments and the intended use.
- Industrial applications.

EC Statistical classification (Tariff Code)

: 32089091

National regulations

Denmark

Additional warning phrases : Not applicable.

Denmark – Cancer risks : Not available.

MAL-code : 00-4

Denmark – Restrictions on use : Not to be used by professional users below 18 years of age, see the National Working Environment Authorities Executive Order on young peoples dangerous work.

Statutory order 517 on aerosols : Not applicable.

Netherlands

K-Klasse : K5

CPR : i

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SHHR : 6FZ

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : Yes.

Ordinance

Other Regulations : Not available.

Hazardous incident ordinance : No.

Ordinance on combustible liquids : Class: Omitted

Hazard class for water : 2

16. Other information

Full text of R phrases referred to in sections 2 and 3 - Europe : R22- Harmful if swallowed.
R34- Causes burns.
R36- Irritating to eyes.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications referred to in sections 2 and 3 - Europe : C - Corrosive
Xn - Harmful
Xi - Irritant
N - Dangerous for the environment.

History

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Prepared by : Simon Hosken
Environmental, Health and Safety Manager

References

The Health and Safety At Work Act 1974, section 6.
Control of Substances Hazardous to Health (CoSHH) Regulations 2002 and its amendments.

Preparation contains solely TSCA and EINECS listed substances.

This safety data sheet has been prepared in accordance with the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 which implement EC Directives 1999/45/EC and 2001/58/EC and their amendments.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.