



Material Safety Data Sheet

Classified as Hazardous according to the criteria of NOHSC

1. SUBSTANCE IDENTIFICATION/ PREPARATION AND COMPANY DETAILS

Product Name: GENERAL FORMULA

Supplier: Stelco Chemicals Pty Ltd
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Australia
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Emergency Telephone Number: 0412 318 882

2. COMPOSITION/INFORMATION ON INGREDIENTS

Recommended use: Dry cleaning spotting agent.
Appearance: Clear, colourless liquid with a fruity odour.

Non-Hazardous Components		< 60%	-
n-Butanol	71-36-3	< 30%	R10, R20
Acetic acid (glacial)	64-49-7	< 9%	R35
2-Butoxyethanol	111-76-2	< 9%	R20/21/22
Food Acid	50-21-9	< 9%	R36

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

3. HAZARDS IDENTIFICATION

Hazardous according to criteria of NOHSC.

Hazard Category

Xi Irritant

R-phrases(s)

R36/38 Irritating to eyes and skin.

Classified as Dangerous Goods for the purpose of transport by road or rail. Refer to relevant regulations for storage and transport requirements.

Class: 3 Flammable Liquid

Poisons Schedule (Aust)/Toxic Substance (NZ): N/A – Not Applicable.

4. FIRST AID MEASURES

Ingestion: Immediately rinse mouth with water. Give water to drink. Do NOT induce vomiting. Seek immediate medical assistance.

Eye contact: Immediately irrigate with copious amount of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Seek immediate medical assistance.

Skin contact: Wash contaminated skin with plenty of water. Some components (n-butyl alcohol and 2-butoxyethanol) can be absorbed through the skin with resultant toxic effects. If irritation occurs seek medical advice.



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Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Notes to physician: Treat symptomatically

5. FIRE-FIGHTING MEASURES

Specific Hazards: Flammable liquid. May form flammable vapour mixtures with air. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc.) must be eliminated both in and near the work area. Do NOT smoke. Vapour may travel a considerable distance to source of ignition and flash back.

Fire fighting further advice: Flammable liquid. On burning may emit toxic fumes. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

Suitable extinguishing media: Foam or dry agent (carbon dioxide, dry chemical powder).

6. ACCIDENTAL RELEASE MEASURES

Shut off all possible sources of ignition. Wear protective equipment to prevent skin and eye contamination and inhalation of vapours. Contain - prevent runoff into drains and waterways. Use absorbent (soil, sand, vermiculite or other inert material). Collect using a spark-free shovel, and seal in properly labelled containers for disposal. If contamination of sewers or waterways has occurred advise the local emergency services.

7. HANDLING AND STORAGE

Storage: Store away from alkalis, oxidising agents, foodstuffs and sources of heat or ignition. Keep containers closed at all times – check regularly for leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

No value assigned for this specific material by the National Occupational Health and Safety Commission

However, Exposure Standards for constituents:-

Acetic acid: 8hr TWA = 25 mg/m³ (10ppm), 15min STEL = 37 mg/m³ (15ppm)

n-Butyl alcohol: 8hr TWA = 152 mg/m³ (50ppm) Peak Limitation Sk

n-Butyl acetate: 8hr TWA = 713 mg/m³ (150ppm), 15 min STEL = 950 mg/m³ (200)ppm

2-Butoxyethanol: 8hr TWA = 121 mg/m³ (25ppm) Sk

Ethyl alcohol (as methylated spirits): 8hr TWA = 1880 mg/m³ (1000ppm)

Isoamyl acetate : 8hr TWA = 532 mg/m³ (100ppm)

No Exposure Standards assigned to other constituents.

TWA – the Time-Weighted Average airborne concentrations over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) – the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour work day. According to current knowledge these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.

Peak Limitation – a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

'Sk' notice – absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. Exposure Standards should not be



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used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Engineering measures: Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Use with local exhaust ventilation or while wearing organic vapour respirator. Vapour heavier than air – prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

Personal protection equipment: OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES(S), RESPIRATOR.

Avoid skin and eye contact and inhalation of vapour and mist. Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. If inhalation risk exists wear organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or reusing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: Clear, colourless liquid with a fruity odour.

Solubility: Soluble in water and most organic solvents.

Specific Gravity (20C)	: 1.05	Solubility in water (g/L)	: Soluble
Rel Vapour Density (air=1)	: > 1	Boiling Point (C)	: 86
Flash Point (C)	: 27	pH (neat)	: 3.1
% Volatile by weight	: 36		

10. STABILITY AND REACTIVITY

Stability: Reacts with alkalis and oxidising agents.

11. TOXICOLOGICAL INFORMATION

Main Symptoms: No adverse health effects expected if the product is handled in accordance with this Safety data Sheet and the product label. Symptoms that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, convulsions and gastrointestinal tract irritation.

Eye contact: An eye irritant.

Skin contact: Contact with the skin will result in irritation. Some components (n-butyl alcohol and 2-butoxyethanol) can be absorbed through the skin. (1,2)

Inhalation: Inhalation of vapour, mists or aerosols may produce respiratory irritation.

Long term effects: No information available for product.

Acute toxicity / Chronic toxicity

No LD50 data available for product, however for the component 2-butoxyethanol (1):

Oral LD50 (rat): 530-3000 mg/kg*

Oral LD50 (mouse): 1230 mg/kg

Dermal LD50 (rabbit): 100-500 mg/kg*

Inhalation LC50 (rat): 450-490 ppm/4H

*Studies indicate older animals are more susceptible to haemolytic effects than younger animals. This may contribute to the large variation observed in oral and dermal LD50 values.

Early deaths in animals from high doses of 2-butoxyethanol have been attributed to narcosis while delayed deaths were attributed to lung and kidney damage which was probably secondary to haemolysis. Long-term exposure to 2-butoxyethanol can cause blood changes, including anaemia, in rats. Both 2-butoxyethanol can



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cause blood changes, including anaemia, in rats. Both 2-butoxyethanol and its metabolite, butoxyacetic acid, can cause breakdown of red blood cells, however, in vitro and in vivo tests have shown that human red blood cells are comparatively insensitive to this effect.

Animal studies have shown that exposure to 2-butoxyethanol, during pregnancy, produced no selective teratogenic effects in the offspring. In the rat, foetotoxic effects were only observed at concentrations that also produced maternal toxicity (ie. 200 ppm). Also, 2-butoxyethanol did not produce testicular atrophy in male rats. Not genotoxic in a range of in vitro studies.

For the component n-butyl alcohol (2):

Oral LD50 (rat): 800-2500 mg/kg

Intraperitoneal LD50 (rat): 200-1122 mg/kg

Dermal LD50 (rabbit): 3400-5300 mg/kg

EYES (rabbit): 0.005 ml instilled in eye caused severe irritation.

SKIN (rabbit): 20-500 mg/24 hr on skin caused moderate irritation.

Injury to auditory systems from inhaling vapour has been reported.

Vapour at concentrations above the exposure standard has an anaesthetic effect, which may lead to headache, fatigue, dizziness and loss of consciousness.

For the component glacial acetic acid (3):

Oral LD50 (rat): 3300 mg/kg

Dermal LD50 (rabbit): 1100 mg/kg

Inhalation Lowest Toxic Concentration (rat): 16,000 ppm/4hrs.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Refer to State Land Waste Management Authority. Advise flammable nature. Normally suitable for incineration by approved agent.

14. TRANSPORT INFORMATION

Road and Rail Transport: Classified as Dangerous Goods for the purpose of transport by road or rail. Refer to relevant regulations for storage and transport requirements.

UN No: 1993

Class: 3 Flammable Liquid

Hazchem code: 3[Y]

EPG: 3A1

Packing group: Packing Group 3

Proper Shipping name: FLAMMABLE LIQUID, N.O.S. (CONTAINS ETHANOL, BUTANOLS)

Marine Transport: Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG) for transport by sea.

Air Transport: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) for transport by air.

Segregation Dangerous Goods: Not to be loaded with explosives (class 1), flammable gases (class 2.1), if both are in bulk, poison gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidising agents (Class 5.1), organic peroxides (Class 5.2) or radioactive substances (Class 7), however exemptions may apply.



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15. REGULATORY INFORMATION

Hazardous according to criteria of NOHSC.

Hazard Category

Xi Irritant

R-phrases(s)

R36/38 Irritating to eyes and skin.

S-phrases(s)

S24/25 Avoid contact with skin and eyes.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S16 Keep away from sources of ignition – No smoking.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Poisons Schedule (Aust) / Toxic Substance (NZ):: N/A – Not Applicable.

16. OTHER INFORMATION

- (1) Supplier Safety Data Sheet – 2-Butoxyethanol
- (2) Supplier Safety Data Sheet – n-Butyl alcohol
- (3) Supplier Safety Data Sheet – Glacial acetic acid

This Material Safety Data sheet has been prepared by Stelco Chemicals Pty Ltd

This MSDS summarises at the date of issue our best knowledge of the health and safety information of the product, and in particular how to safely handle and use the product in the workplace. As each workplace is different each user must, prior to use, review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification of further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.