

Safety Data Sheet GOODING & STEWART DECALCIFYING Fluid

SDS no. DB2E2WT2 • Version 1.0 • Date of issue: 2024-09-19

SECTION 1: Identification

GHS Product identifier

Product name GOODING & STEWART DECALCIFYING Fluid

Product number ADFGS

Recommended use of the chemical and restrictions on use

Laboratory reagent

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

National contact

Name Australian Biostain Pty Ltd
Address 16 Shipwright Road
5016 Largs North SA
Australia

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:

Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, inhalation, Cat. 3
- Acute toxicity, oral, Cat. 4
- Carcinogenicity, Cat. 1

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- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1A
- Skin sensitizer, Cat. 1
- Specific target organ toxicity following single exposure, Cat. 3

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H331	Toxic if inhaled
H335	May cause respiratory irritation
H350	May cause cancer

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/phycian if you feel unwell,
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/phycian
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Other components either not classified as Hazardous under the GHS, or below cut-off concentrations to be classified as Hazardous.

Components

Component	CAS no.	Concentration
Formic acid (EC no.: 200-579-1; Index no.: 607-001-00-0)	64-18-6	<= 25 % (volume)
CLASSIFICATIONS: Flammable liquids, Cat. 3; Acute toxicity, oral, Cat. 4; Acute toxicity, inhalation, Cat. 3; Serious eye damage/eye irritation, Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 3; Skin corrosion/irritation, Cat. 1A; Specific target organ toxicity following single exposure, Cat. 3. HAZARDS: H226 - Flammable liquid and vapor; H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage; H318 - Causes serious eye damage; H331 - Toxic if inhaled; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness; H402 - Harmful to aquatic life. [SCLs/M-factors/ATEs]: Skin Corr. 1A; H314: C ≥ 90 %; Skin Corr. 1B; H314: 10 % ≤ C < 90 %; Skin Irrit. 2; H315: 2 % ≤ C < 10 %; Eye Irrit. 2; H319: 2 % ≤ C < 10 %		
FORMALDEHYDE, 37% SOLUTION (EC no.: 200-001-8; Index no.: 605-001-00-5)	50-00-0	<= 10 % (volume)

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CLASSIFICATIONS: Carcinogenicity, Cat. 1B; Germ cell mutagenicity, Cat. 2; Acute toxicity, inhalation, Cat. 3; Acute toxicity, dermal, Cat. 3; Acute toxicity, oral, Cat. 3; Skin corrosion/irritation, Cat. 1B; Skin sensitizer, Cat. 1. HAZARDS: H301 - Toxic if swallowed; H311 - Toxic in contact with skin; H314 - Causes severe skin burns and eye damage; H317 - May cause an allergic skin reaction; H331 - Toxic if inhaled; H341 - Suspected of causing genetic defects [route]; H350 - May cause cancer [route]. [SCLs/M-factors/ATEs]: STOT SE 3; H335: C ≥ 5 %; Skin Corr. 1B; H314: C ≥ 25 %; Skin Irrit. 2; H315: 5 % ≤ C < 25 %; Eye Irrit. 2; H319: 5 % ≤ C < 25 %; Skin Sens. 1; H317: C ≥ 0,2 %

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

First Aid Facilities: Maintain eyewash fountain in work area.

If inhaled If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discolouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.

In case of skin contact Remove contaminated clothing and wash affected skin with soap and water. If rapid recovery does not occur, obtain medical attention

In case of eye contact Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Obtain medical attention immediately.

If swallowed Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: Use dry chemical, CO₂ or water spray.

Large fire: Use water spray, fog or foam - Do NOT use water jets.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical

Hazards from Combustion Products: On burning, will emit toxic fumes, including oxides of carbon. The packaging material may burn to emit noxious fumes.

May burn but do not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Fire will produce irritating, poisonous and/or corrosive gases.

Formic acid: Carbon oxides

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Special protective actions for fire-fighters

Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

Eliminate all ignition sources. Do NOT touch or walk through spilled product. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas.

SECTION 7: Handling and storage

Precautions for safe handling

Handle and open containers with care. When opening containers, avoid inhalation of headspace gases. Use in a well-ventilated area. Prevent formation of aerosols.

Conditions for safe storage, including any incompatibilities

Corrosiveness: Metal containers.

Store away from sources of heat or ignition. Store away from oxidizing agents. Store away from combustible materials. Keep containers securely sealed and protected against physical damage.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 64-18-6

Formic acid

ACGIH: 10 ppm (STEL) TLV® inhalation; 5 ppm TLV® inhalation; AU/SWA (Australia): 10 ppm; 19 mg/m³ STEL inhalation; 5 ppm; 9.4 mg/m³ TWA inhalation;

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

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Body Protection: Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Colourless liquid.
Color	Colourless
Odor	Strong acrid.
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flammability	Not flammable
Lower and upper explosion limit/flammability limit	n/a
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	~2.2
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Miscible in all proportions.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Approx 1
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Reacts with incompatible materials

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

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Reacts with alkalis and amines. Exothermic reaction.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Avoid exposure to heat, direct sunlight, open flames or other sources of ignition.

Incompatible materials

Oxidisers, metals.

Formic acid: Strong oxidizing agents, Strong bases, Powdered metals

Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: Formic acid: LD50 730 mg/kg body weight.

Acute Toxicity - Inhalation: Formic acid: LC50 7.4 mg/kg body weight.

Ingestion: Cause severe burns to the mouth, throat and stomach.

Inhalation: Inhalation of vapours can cause severe irritation of nose, throat, and upper respiratory tract. Inhalation of higher concentrations may cause central nervous system effects and respiratory/lung damage.

// ----- From the Suggestion report (01/10/2024, 10:12 AM) ----- //
The ATE (dermal) of the mixture is: 3000 mg/kg bw

// ----- From the Suggestion report (01/10/2024, 10:12 AM) ----- //
The ATE (dusts-mists inhalation) of the mixture is: 0.4 mg/l

// ----- From the Suggestion report (01/10/2024, 10:12 AM) ----- //
The ATE (gas inhalation) of the mixture is: 736.84 ppmV

// ----- From the Suggestion report (01/10/2024, 10:12 AM) ----- //
The ATE (oral) of the mixture is: 666.67 mg/kg bw

Skin corrosion/irritation

Causes severe burns. Symptoms may include redness, burning, and swelling of skin, burns, and other skin damage.

Serious eye damage/irritation

Causes severe burns and eye damage. Risk of blindness.

Respiratory or skin sensitization

Not classified based on available information.

Germ cell mutagenicity

Germ cell mutagenicity: Not classified based on available information.

Mutagenicity: Not classified based on available information.

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Carcinogenicity

Carcinogenicity: Category 1B. H351 Suspected of causing cancer by inhalation.

Reproductive toxicity

Not considered to be toxic to reproduction.

Specific target organ toxicity (STOT) - single exposure

Specific Target Organ Toxicity - Single Exposure: Category 3
H335 May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

Not classified based on available information.

Aspiration hazard

Based on available data, classification data are not met

Additional information

Chronic Effects: Prolonged or repeated exposure to low concentrations may cause skin irritation and burns. Prolonged or repeated exposure may cause liver and kidney damage.

Formic acid: *TOXICITY:

typ. dose mode specie amount units other

LD50 orl rat 1100 mg/kg

LC50 ihl rat 15 gm/m³/15M

LD50 orl mus 700 mg/kg

LC50 ihl mus 6200 mg/m³/15M

LD50 ipr mus 940 mg/kg

LD50 ivn mus 145 mg/kg

LD50 orl dog 4000 mg/kg

LDLo ivn dog 3000 mg/kg

LDLo ivn rbt 239 mg/kg

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:

THR = MODERATE via intraperitoneal, oral and intravenous routes. SEVERE eye irritation in rabbits. MILD skin toxicity in rabbits. A substance migrating to food from packaging materials.

*CARCINOGENICITY:

Status: NTP Carcinogenesis Studies; selected, June 1986

*MUTATION DATA:

test lowest dose | test lowest dose

----- | -----

mmo-esc 70 ppm/3H | pic-esc 100 mmol/L

sln-dmg-ihl 1000 ppm/24H | sln-dmg-ork 1000 ppm

oms-nml:oth 100 mmol/L | cyt-nml:oth 100 mmol/L

*TERATOGENICITY (Reproductive Effects Data): Not available

*STANDARDS, REGULATIONS & RECOMMENDATIONS:

OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z

Transitional Limit: PEL-TWA 5 ppm [610]

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Final Limit: PEL-TWA 5 ppm [610]

ACGIH: TLV-TWA 5 ppm [015,413]

NIOSH Criteria Document: None

NFPA Hazard Rating: Health (H): 3

Flammability (F): 2

Reactivity (R): 0

H3: Materials extremely hazardous to health but areas may be entered with extreme care (see NFPA for details).

F2: Materials which must be moderately heated before ignition will occur (see NFPA for details).

R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

*OTHER TOXICITY DATA:

Skin and Eye Irritation Data:

skn-rbt 610 mg open MLD

eye-rbt 122 mg SEV

Review: Toxicology Review-2

Standards and Regulations: DOT-Hazard: Corrosive material; Label: Corrosive

DOT-Hazard: Corrosive material; Label: Corrosive, solution

Status: "NIOSH Manual of Analytical Methods" Vol 1 232, Vol 5 S173#

"NIOSH Manual of Analytical Methods" to be revised by June, 1985

Reported in EPA TSCA Inventory, 1983

Meets criteria for proposed OSHA Medical Records Rule

Estimated fatal dose: 30 mL

SECTION 12: Ecological information

Toxicity

[Do not discharge to the environment.

Persistence and degradability

Formic acid is biodegradable with an expected half life of ½ a day released into air; photolysis

Rapidly breaks it down and is rapidly removed in both wet and dry conditions. Expected half life if released into water is 1-10 days.

Mobility in soil

Readily mobile in soil.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1760

Class: 8

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Packing Group: II

Proper Shipping Name: CORROSIVE LIQUID, N.O.S. (Contains FORMIC ACID, FORMALDEHYDE)

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 1760

Class: 8

Packing Group: II

Proper Shipping Name: CORROSIVE LIQUID, N.O.S. (Contains FORMIC ACID, FORMALDEHYDE)

IATA

UN Number: 1760

Class: 8

Packing Group: II

Proper Shipping Name: CORROSIVE LIQUID, N.O.S. (Contains FORMIC ACID, FORMALDEHYDE)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: S5

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)