



SUMITOMO CHEMICAL (U.K.) PLC

SAFETY DATA SHEET PROMALIN®

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	PROMALIN®
Name	Gibberellins A4A7 1.8% / 6-Benzyladenine 1.8%, soluble concentrate (19+19 g/l)
GIFAP Code	SL
Synonyms; trade names	

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Plant growth regulator (agricultural use)
Uses advised against	Not for public use

1.3. Details of the supplier of the safety data sheet

Supplier	Sumitomo Chemical (UK) Plc Hythe House 200 Shepherds Bush Road Hammersmith London W6 7NL regulatory@scuk.sumitomo-chem.co.uk +44 (0)203 538 3099
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1.4. Emergency telephone number

Emergency telephone	+44 (0)1235 239670 (EU)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	None
Health hazards	None
Environmental hazards	None

2.2. Label elements

Pictogram	None
Signal word	None
Hazard statements	None
Precautionary statements	P261: Avoid breathing spray. P285: In case of inadequate ventilation wear respiratory protection. P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

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Supplemental label information	EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.
Special risks and safety precautions (Commission Regulation (EU) 547/2011): General provisions	SP 1: Do not contaminate water with the product or its container. (Do not clean application equipment near surface water.)
Special risks and safety precautions (Commission Regulation (EU) 547/2011): Specific safety precautions	None
2.3. Other hazards	None known.

SECTION 3: Composition/information on ingredients**3.1. Substances**

Classification according to
Regl 1272/2008

3.2 Mixtures

Classification according to
Regl 1272/2008

GIBBERELLINS (GIBBERELLIN A4 + GIBBERELLIN A7) 1.8%

CAS number: 8030-53-3

EC number: 207-406-9, 208-117-0

Classification

None

6-BENZYLADENINE 1.8%

CAS number: 1214-39-7

EC number: 214-927-5

Classification

Acute Tox. 4 - H302

Repr. 2 - H361d

Aquatic Acute 1 - H400

Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

Composition comments All percentages displayed expressed as weight/weight.

Other information Code ID : ABG-3170

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In all cases of doubt, seek medical attention.

Inhalation

Move affected person to fresh air at once. If symptoms persist, seek medical advice.

Ingestion

Rinse mouth. Never induce vomiting in unconscious or confused persons. Always seek medical attention

Skin contact

Remove contaminated clothing. Wash skin thoroughly with water.

Eye contact

Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed**Human health**

No typical symptoms and effects known.

General information

No typical symptoms and effects known.

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4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Symptomatic treatment is advised.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry chemical powder. Carbon dioxide (CO₂). Sand. Foam. Water.

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture

Specific hazards In case of fire: Thermal decomposition may evolve toxic and irritating vapours.

5.3. Advice for firefighters

Protective actions during Water used to extinguish a fire should not be allowed to enter the drainage system
firefighting or watercourses.

Special protective equipment Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate
for firefighters protective clothing and eye/face protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel Wear protective gloves, safety goggles or face shield, and suitable protective clothing.
Remove ignition sources.
Evacuate the danger area

For emergency responders Wear protective nitrile gloves, safety goggles or face shield, and suitable protective
clothing.
Remove ignition sources.
Evacuate the danger area or consult an expert.

6.2. Environmental precautions

Environmental precautions Do not allow escape into sewage system or watercourses. Do not wash residues
into drains or other waterways.

6.3. Methods and material for containment and cleaning up

Containment of a spill Do not allow escape into sewage system or watercourses.

Methods for cleaning up In case of spill (liquid) soak it up immediately with suitable absorbent such as sawdust
or granular absorbent clay. Sweep up and place into sealable containers. Dig up
heavily contaminated soil and place into drums. Use a damp cloth to clean floors and
other objects, and also place in sealable container. Dispose of all waste and
contaminated clothing in the same manner as waste chemicals (i.e. via an authorized
disposal facility). Do not wash residues into drains or other waterways.

6.4. Reference to other sections

Reference to other sections For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Fire and explosion prevention No specific recommendations.

Usage precautions Follow precautions for safe handling described in this safety data sheet. Avoid
spilling. Do not allow to escape into sewage system or water courses.

Advice on general occupational Do not eat, drink or smoke when using this product.
hygiene

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry and cool place. Keep container in a
well-ventilated place. Keep away from heat. Keep away from food, drink and animal
feedingstuffs. Do not drink, eat and smoke in work areas.

Other information Do not mix with water (except for the normal preparation). Store away from
incompatible materials (see Section 10).

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7.3. Specific end use(s)

Specific end use(s) See label on the container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits There is no national exposure limit for this product.
No chemical safety report is required for this kind of product.

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation.
Eye/face protection Wear safety goggles or face shield.
Hand protection Wear protective nitrile gloves.
Other skin and body protection Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures Wash contaminated clothing before reuse.
Respiratory protection The usual precautions for handling chemicals should be observed.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Name Gibberellins A4A7 1.8% / 6-Benzyladenine 1.8%, soluble concentrate (19+19 g/l)
Appearance Slightly viscous liquid (OPPTS 830.6302)
Colour Clear, colourless (OPPTS 830.6303)
Odour Odourless (OPPTS 830.6304)
Odour threshold Not determined
pH 3.88 (1% dilution in water, at 20°C) (CIPAC MT 75)
Melting point Not determined
Initial boiling point and range 188°C (for main inert propylene glycol)
Flash point 108°C (EEC A.9)
Evaporation rate Not applicable
Flammability (solid, gas) Not "highly flammable" (Expert statement)
Upper/lower flammability or explosive limits LEL 2.6%, UEL 12.5% (propylene glycol)
Vapour pressure Not determined (Gibberellin A4A7: $V_p = \text{Between } 7.68 \times 10^{-6} \text{ Pa and } 1.6 \times 10^{-1} \text{ Pa}$; 6-benzyladenine: $V_p = 6 \times 10^{-7} \text{ Pa} - 25^\circ\text{C}.$)
Vapour density Not determined
Relative density 1.05 g/ml (OECD 109)
Bulk density Not applicable
Solubility(ies) Miscible in water. (solubility of Gibberellin A4A7 = 127 mg/l at 20°C (OECD 105, shake flask method); 6-benzyladenine = 65.7 mg/l (20°C) (OECD 105))
Solubility in other solvents Not applicable
Partition coefficient Not determined (Gibberellin A4: log Pow = 2.34, 20°C; Gibberellin A7: log Pow = 2.25, 20°C; 6-Benzyladenine: log Pow = 2.16, 20°C)
Auto-ignition temperature 394°C (EEC A.15)
Decomposition temperature The active substance GA4A7 decomposes at 210°C and 6-Benzyladenine above 245°C.
Viscosity Dynamic viscosity: Not determined
Kinematic viscosity: 68.4 cS (20°C, OECD 114)
Explosive properties Not explosive (EEC A.14)
Oxidising properties Not oxidising. Expert judgement.

9.2. Other information

Relative vapour density (air = 1) Not Determined.
Surface Tension 68.2 mN/m (21°C) (OECD 115)

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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Stable under recommended storage and handling conditions. See also section 7.

10.2. Chemical stability

Stability Stable for a minimum of 2 years under recommended storage and handling conditions. See section 7.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known.

10.4. Conditions to avoid

Conditions to avoid Avoid high temperature, light, humidity.

10.5. Incompatible materials

Materials to avoid Oxidisers.

10.6. Hazardous decomposition products

Hazardous decomposition products In case of fire: Thermal decomposition may evolve toxic and irritant vapours. See also section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Name Gibberellins A4A7 1.8% / 6-Benzyladenine 1.8%, soluble concentrate (19+19 g/l)

Acute toxicity - oral

Acute toxicity - oral LD₅₀ rat: >5050 mg/kg (EPA 152-10)

Acute toxicity - dermal

Acute toxicity - dermal LD₅₀ rabbit: >5050 mg/kg (EPA 152-11)

Acute toxicity - inhalation

Acute toxicity - inhalation LC₅₀ rat (4 hours): >6.60 mg/l (whole body) (EPA 152-12)

Skin corrosion/irritation

Skin corrosion/irritation Weakly irritating (EPA 152-14)

Serious eye damage/irritation

Serious eye damage/irritation Weakly irritating (EPA 152-13)

Skin sensitisation

Skin sensitisation Not sensitizing (maximisation test) (EPA 40 CFR 160)

Toxicological information on ingredients

Name Active substance, Gibberellins A4A7, technical grade

Other toxicological information Genotoxicity: negative. (OECD 471, 473, 476, 474, 486)
Teratogenicity in rabbit: negative. (OECD 414)
Toxicity on reproduction (rat): negative. (OECD 416)
Carcinogenicity: considered as negative based on the absence of genotoxicity and of any adverse finding indicative of a possible tumorigenesis during toxicity studies in animals.

Name Active substance, 6-benzyladenine, technical grade

Other toxicological information Genotoxicity: negative (US EPA 152B-15, 152B-17, EPA FIFRA 84-2, OECD 473, OECD 476)
Carcinogenicity: no carcinogenic effect. Assumption of "non-harmful" is strongly supported by absence of major effects in regulatory acute and subchronic studies at very high doses in rodents. Short-term and subchronic toxicity studies show a low order of toxicity, which does not appear to increase with duration of exposure.

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Literature search has not raised any issues which could lead one to suspect carcinogenicity.

Multigeneration reproduction study (rat): negative (OECD 416)

Teratogenicity: suspected of damaging the unborn foetus (FIFRA § 152B-13, OECD 414)

General information	Based on the available data, no classification criteria are met for any of these hazard classes.
Route of exposure	This product is for agricultural use; therefore, the most probable routes of exposure are via skin or inhalation.

SECTION 12: Ecological information

12.1. Toxicity

Name Gibberellins A4A7 1.8% / 6-Benzyladenine 1.8%, soluble concentrate (19+19 g/l)

Acute aquatic toxicity

Acute toxicity - fish 96h-LC₅₀ (*Brachydanio rerio*): >1000 mg/l (IBAMA 84)

Acute toxicity - aquatic invertebrates 48h- (*Daphnia magna*): EC₅₀ >512 mg/l (OECD 202)
NOEC = 512 mg/l

Acute toxicity - algae 96h - (*Pseudokirchneriella subcapitata*): E_bC₅₀ > 123 mg/l; E_rC₅₀ > 123 mg/l, NOEC_{b&r} = 123 mg/l (OECD 201)

Acute toxicity - aquatic plant 7d (*Lemna gibba*): EC_{50b} > 198 mg/l ; EC_{50r} = 140 mg/l, NOEC_{b&r} = 11 mg/l (OECD 221)

Acute toxicity - terrestrial Oral; 48h-LC₅₀ (*Apis mellifera*): >100 µg/bee
Contact; 48h-LD₅₀ (*Apis mellifera*): >100 µg/bee (EPPO 170)

Ecological information on ingredients

Name Gibberellins A3, technical grade (similar substance)

Acute aquatic toxicity

Acute toxicity - terrestrial Acute toxicity, LC50 (Bobwhite quail): > 2250 mg/kg bw (FIFRA 71-1)

Name Active substance, 6-benzyladenine, technical grade

Acute aquatic toxicity

Acute toxicity - fish 96h-LC₅₀ (*Brachydanio rerio*) : 42 mg/l (OECD 203)

Acute toxicity - aquatic invertebrates 48h-EC₅₀ (*Daphnia magna*): 17 mg/l (US EPA 72-2)

Acute toxicity - algae 72h (*Pseudokirchneriella supcapitata*): E_rC₅₀ = 45.1 mg/l; E_bC₅₀ = 36 mg/l
72h-NOEC (*Pseudokirchneriella supcapitata*): = 1 mg/l (OECD 201)

Acute toxicity - aquatic plant 7d-EC₅₀ (*Lemna gibba*): 0.31 mg/l (OECD 221)

7d-NOEC_{ronnd} = 0.035 mg/l
7d-NOEC_{obs} < 0.010 mg/l (OECD 221)

Acute toxicity - terrestrial LD₅₀ (Bobwhite quail) : 1599 mg/kg (U.S. EPA Guideline FIFRA 71-1)

Oral; 48h-LC₅₀ (*Apis mellifera*): > 58.73 µg/bee (OECD 213)

Contact; 48h-LC₅₀ (*Apis mellifera*): > 100 µg/bee (OECD 214)

14d-LC₅₀ (*Eisenia foetida*): > 1000 mg/kg dry soil (OECD 207)

No significant impact on carbon mineralization or nitrogen transformation at up to 1 mg/kg dw soil (OECD 216, OECD 217)

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates 21d-NOEC (*Daphnia magna*): 4 mg/l (OECD 211)

28d-NOEC (*Chironomus riparius*) = 4.52 mg/l (OECD 219)

12.2. Persistence and degradability

Ecological information on ingredients

Name Active substance, Gibberellins A4A7, technical grade

Degradation Biotic Readily biodegradable (OECD 301B)

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Degradation Abiotic	Hydrolytically stable (pH 7) (OECD 211) Photolysis: pH 5: 104 days; pH 9: 206 days (OECD direct photolysis draft guideline, tier I)
Biological methods for sewage treatment	3h-EC ₅₀ activated sludge: > 100 mg/l (OECD 209)
Name	Active substance, 6-benzyladenine, technical grade
Degradation Biotic	Readily biodegradable. Naturally broken down in the environment (OECD 301D)
Degradation Abiotic	Hydrolytically stable at pH 4, 7, 9 (OECD 111)
Biological methods for sewage treatment	3h-EC ₅₀ activated sludge: > 1000 mg/l (OECD 209)

12.3. Bioaccumulative potential**Ecological information on ingredients**

Name	Active substance, Gibberellins A4A7, technical grade
Bioaccumulation	Partition coefficient n-octanol/water log Pow : Gibberellin A4: log Pow = 2.34 (20°C) Gibberellin A7: log Pow = 2.25 (20°C) (OECD 107) No potential for bioaccumulation of GA4A7 in fish.
Name	Active substance, 6-benzyladenine, technical grade
Bioaccumulation	Partition coefficient n-octanol/water log Pow = 2.16 (OECD 107) Bio Concentration Factor (BCF): no bioaccumulation study is necessary.

12.4. Mobility in soil**Ecological information on ingredients**

Name	Active substance, Gibberellins A4A7, technical grade Estimated K _{oc} both GA4 and GA7: 0.5747 ml/g
Name	Active substance, 6-benzyladenine, technical grade Adsorption K _{oc} values: 282 to 1945 ml/g Desorption K _{ocdes} values: 460 to 2897 ml/g Therefore the substance showed a low to medium mobility depending on soil type (OECD 106).

12.5. Results of PBT and vPvB assessment**Ecological information on ingredients**

Not required (no chemical safety report required).

12.6. Other adverse effects**Ecological information on ingredients**

No other known adverse effects on the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Disposal methods According to local regulations. For further advice, contact manufacturer.

SECTION 14: Transport information**14.1. UN Number**

UN No. (ADR/RID)	None
UN No. (IMDG)	None
UN No. (ICAO)	None

14.2. UN proper shipping name

Proper shipping name (ADR/RID) Not relevant

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Proper shipping name (IMDG) Not relevant
Proper shipping name (ICAO) Not relevant

14.3. Transport hazard class(es)

ADR/RID class Not restricted
ADR/RID label Not relevant
IMDG class Not restricted
ICAO class/division Not restricted

14.4. Packing group

ADR/RID packing group Not relevant
IMDG packing group Not relevant
ICAO packing group Not relevant

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant No

14.6. Special precautions for user

No other special precaution required.

EmS Not relevant

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the ICB Code

Transport in bulk according to Annex II of MARPOL 73/78 and the ICB Code Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU legislation There is no specific regulation/legislation for this mixture.

15.2. Chemical safety assessment

No chemical safety assessment is required for this mixture.

SECTION 16: Other information

Method for evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 used for the purpose of classification Classification based on; tests and properties of the active substance

Classification abbreviations and acronyms Acute Tox. = Acute toxicity
 Repr. = Reproductive toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Abbreviations and acronyms Used in the safety data sheet ASTM : American Society for Testing Material
 CAS: Chemical Abstracts Service.
 CFR : Code of Federal Regulations
 CLP : Classification, Labelling and Packaging
 EC : European Community
 EEC : European Economic Community
 EPA : Environmental Protection Agency (USA)
 EPPO : European and Mediterranean Plant Protection Organization
 EU : European Union
 GIFAP : International Group of National Associations of manufacturers of Agrochemical Products
 GHS: Globally Harmonized System.

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ID : identification
 i.e. : shortening of the Latin expression id est, which is translated as "that is."
 OECD : Organisation for Economic Co-operation and Development
 PBT: Persistent, Bioaccumulative and Toxic substance.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 Regl : Regulation
 US EPA : United States Environmental Protection Agency
 vPvB: Very Persistent and Very Bioaccumulative.
 w/w : weight per weight
 FIFRA : Federal Insecticide, Fungicide and Rodenticide Act of 1972
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 LC₅₀: Lethal Concentration to 50 % of a test population.
 EC₅₀: 50% of maximal Effective Concentration.
 NOEC: No Observed Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 ECb50 : 50% of maximal Effective Concentration on biomass.
 NOECb : No Observed Effect Concentration on biomass.
 EC50fd : 50% of maximal Effective Concentration on frond density.
 NOECfd : No Observed Effect Concentration on frond density.
 DT₅₀ : degradation time for 50% of a compound
 log Pow : Octanol-water partition coefficient.
 Koc : organic carbon adsorption coefficient
 BCF: Bioconcentration Factor.
 UN: United Nations.
 No. : number
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 IMDG: International Maritime Dangerous Goods.
 ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
 N.O.S. : Not Otherwise Specified
 EmS : Emergency Response Procedures for Ships Carrying Dangerous Goods
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).
 SDS : Safety Data Sheet
 CT50 : clearance time
 ECr&b50 : 50% of maximal Effective Concentration on growth rate and biomass.
 ECr50 : 50% of maximal Effective Concentration on growth rate.
 NOECr : No Observed Effect Concentration on growth rate.
 NOECr&b : No Observed Effect Concentration on growth rate and biomass.
 Vol. = volume
 CIPAC : Collaborative International Pesticides Analytical Council
 USP : United States Pharmacopeia
 SETAC: Society of Environmental Toxicology And Chemistry
 OPPTS : Office of Prevention, Pesticides & Toxic Substances
 a.s. : active substance
 bw: bodyweight
 MAFF : Ministry of Agriculture, Forestry and Fisheries (Japan)
 ISO : International Organization for Standardization
 v/v : volume per volume
 w/v : weight per volume
 BBA : Biologische Bundesanstalt für Land und Fortwirtschaft (German Federal Biological Research Centre for Agriculture and Forestry)
 subsp. = subspecies
 cfu : colony-forming unit
 SL : Soluble concentrate

Revision comments

Sections were modified as follows: Identity of the company/undertaking.

Hazard statements in full

H302: Harmful if swallowed

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H361d: Suspected of damaging the unborn child
H400: Very toxic to aquatic life
H411: Toxic to aquatic life with long lasting effects

Reference of the SDS

Based on PROSLCLP/EU/420gb from SCAE

This information only concerns the above mentioned product for the specific use mentioned and is not valid for such product used in combination with any other product. The information is to our best present knowledge correct and complete and is given in good faith as of the date indicated. It is the user's responsibility to use this information as appropriate for his own particular use of this product.