

SAFETY DATA SHEET

1. Identification

Product identifier **MethylEasy Xceed - Rapid DNA Bisulphite Modification Kit (ME002)**

Other means of identification

Product code ME002

SDS No. ME002-1

Recommended use of the chemical and restrictions on use

Recommended use Research use only.

Restrictions on use None known.

Details of manufacturer or importer

Manufacturer

Manufacturer/Supplier Genetic Signatures
Address Level 9, Lowy Packer Building,
405 Liverpool St, NSW, 2010, Australia

Telephone number + 61 2 9870 7116

e-mail info@geneticsignatures.com

Contact person Dr John Melki

Emergency telephone + 61 2 9870 7116 (Business hours only)
number

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements, including precautionary statements

Hazard symbol(s)



Corrosion Exclamation mark

Signal word Danger

Hazard Statement(s) Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes skin irritation. Causes serious eye damage. Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

Avoid breathing mist. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards which do not result in classification	Contact with acids liberates very toxic gas.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Guanidinium thiocyanate	593-84-0	<100
Sodium disulphite	7681-57-4	<100
Sodium hydroxide	1310-73-2	1 - <2

4. First-aid measures

Description of necessary first aid measures

Inhalation	Move to fresh air. For breathing difficulties, oxygen may be necessary. Get medical attention.
Skin contact	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. If swallowed, seek medical advice immediately and show this container or label. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. Do not use mouth-to-mouth method if victim ingested the substance.

Personal protection for first-aid responders In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an asthma-like shortness of breath.

Medical attention and special treatment Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Hazchem Code Not available.

General fire hazards No unusual fire or explosion hazards noted.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** Keep unnecessary personnel away. Ensure adequate ventilation. Avoid inhalation of mist and contact with skin and eyes. Wear appropriate protective equipment and clothing during clean-up.
- For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in section 8 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Other issues relating to spills and releases Clean up in accordance with all applicable regulations.

7. Handling and storage

Precautions for safe handling Provide adequate ventilation. Avoid inhalation of mist and contact with skin and eyes. Do not taste or swallow. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Observe good laboratory hygiene practices. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Sodium disulphite (CAS 7681-57-4)	TWA	5 mg/m ³

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value
Sodium disulphite (CAS 7681-57-4)	TWA	5 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium disulphite (CAS 7681-57-4)	TWA	5 mg/m ³

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Sodium disulphite (CAS 7681-57-4)	TWA	5 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection Wear approved chemical safety goggles.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Solid, Liquid.
Form Varies by kit component. Solid. Liquid.
Colour Varies by kit component. Colourless. White.

Odour Odourless.

Odour threshold Not available.

pH Not applicable.

Melting point/freezing point Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Vapour pressure Not applicable.

Vapour density Not applicable.

Relative density Not applicable.

Solubility(ies)

Solubility (water) Not applicable.

Partition coefficient (n-octanol/water) No data available.

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable.

Other physical and chemical parameters

Bulk density Not applicable.

VOC (Weight %) Not applicable.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Reacts violently with strong acids. This product may react with oxidizing agents. Contact with incompatible materials.

Incompatible materials Acids. Oxidizing agents.

Hazardous decomposition products Sulphur oxides. Hydrogen sulfide.

11. Toxicological information

Information on possible routes of exposure

Inhalation Harmful if inhaled. Repeated or prolonged inhalation exposure may cause asthma-like syndrome (RADS).

Skin contact Harmful in contact with skin. Causes skin irritation.

Eye contact Causes serious eye damage.

Ingestion	Harmful if swallowed.
Symptoms related to exposure	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an asthma-like shortness of breath.
Acute toxicity	Harmful if swallowed, in contact with skin or if inhaled
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitisation	
Respiratory sensitisation	Repeated or prolonged inhalation exposure may cause asthma-like syndrome.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
ACGIH Carcinogens	
Sodium disulphite (CAS 7681-57-4)	A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Sodium disulphite (CAS 7681-57-4)	3 Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Not classified.
Other information	None known.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species		Test results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	99 mg/l, 48 hours
		Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Partition coefficient n-octanol / water (log Kow)	No data available.		
Mobility in soil	No data available.		
Other adverse effects	None known.		

13. Disposal considerations

Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

ADG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

15. Regulatory information

Safety, health and environmental regulations

National regulations

This Material Safety Data Sheet was prepared in accordance with the Australia National Code of Practice for the Preparation of Material Safety Data Sheets (NOHSC: 2011.) Additional information is given in the Material Safety Data Sheet.

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix C

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Sodium disulphite (CAS 7681-57-4)

Australia Medicines & Poisons Appendix F

Sodium disulphite (CAS 7681-57-4)

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 5

Sodium disulphite (CAS 7681-57-4)

Australia Medicines & Poisons Schedule 6

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

For advice, contact a Poisons information Centre (Phone eg Australia 131 - 126; New Zealand 03 - 4747 - 000) or a doctor (at once)., If swallowed, do NOT induce vomiting.

applies to all preparations in any concentration Irritant., (Powder) (and) (concentrated solutions) are dangerous if swallowed. Avoid contact with eyes., Avoid contact with skin.

when packed for domestic use. Exception was applied to data.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

High Volume Industrial Chemicals (HVIC)

Sodium disulphite (CAS 7681-57-4)

1000 - 9999 TONNES See the regulation for additional information.

Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	10-September-2014
Revision date	15-March-2016
Key abbreviations or acronyms used	LD50: Lethal Dose, 50%. LC50: Lethal Concentration, 50%. EC50: Effective concentration, 50%.

References

ESIS (European chemical Substances Information System)

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.