

## SAFETY DATA SHEET

### 1. Identification

**Product identifier**                      **MethylEasy™ DNA Bisulphite Modification Kit (ME001)**

**Other means of identification**

**Product code**                              ME001  
**SDS No.**                                        ME001-1

**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, Darlinghurst, 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**

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
<b>Environmental hazards</b>	Not classified.	

**Label elements, including precautionary statements**

**Hazard symbol(s)**



Corrosion      Exclamation mark

**Signal word**                                    Danger

**Hazard Statement(s)**                      Harmful if swallowed. Causes skin irritation. Causes serious eye damage.

**Precautionary Statement(s)**

**Prevention**                                    Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

**Response**                                      IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. 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 toxic gas.

### 3. Composition/information on ingredients

#### Mixture

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

### 4. First-aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	Move to fresh air. For breathing difficulties, oxygen may be necessary. Get medical attention.
<b>Skin contact</b>	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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<sub>2</sub>).

**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. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8.

**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

Do not get this material in contact with eyes. Do not taste or swallow. Avoid contact with skin. Avoid prolonged exposure. Provide adequate ventilation. 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 <sup>3</sup>
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>

#### 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 <sup>3</sup>

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium disulphite (CAS 7681-57-4)	TWA	5 mg/m <sup>3</sup>
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>

#### UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Sodium disulphite (CAS 7681-57-4)	TWA	5 mg/m <sup>3</sup>
Sodium hydroxide (CAS 1310-73-2)	STEL	2 mg/m <sup>3</sup>

### 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

Risk of contact: Wear appropriate chemical resistant gloves.

##### 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.

<b>Colour</b>	Varies by kit component. Colourless. White.
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	Not applicable.
<b>Initial boiling point and boiling range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	Not applicable.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not applicable.
<b>Partition coefficient (n-octanol/water)</b>	No data available.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.
<b>Other physical and chemical parameters</b>	
<b>Bulk density</b>	Not applicable.
<b>VOC (Weight %)</b>	Not applicable.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Reacts violently with strong acids. This product may react with oxidizing agents. Contact with incompatible materials.
<b>Incompatible materials</b>	Acids. Oxidizing agents.
<b>Hazardous decomposition products</b>	Sulphur oxides. Hydrogen sulfide.

## 11. Toxicological information

### Information on possible routes of exposure

<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Prolonged inhalation may be harmful. Repeated or prolonged inhalation exposure may cause asthma-like syndrome (RADS).
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye damage.
<b>Symptoms related to exposure</b>	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.
<b>Acute toxicity</b>	Harmful if swallowed.

Components	Species	Test results
Sodium disulphite (CAS 7681-57-4)		
<b>Acute</b>		
<i>Other</i>		
LD50	Rat	115 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/irritation</b>	Causes serious eye damage.	
<b>Respiratory or skin sensitisation</b>		
<b>Respiratory sensitisation</b>	Repeated or prolonged inhalation exposure may cause asthma-like syndrome.	
<b>Skin sensitisation</b>	This product is not expected to cause skin sensitisation.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
<b>ACGIH Carcinogens</b>		
Sodium disulphite (CAS 7681-57-4)	A4 Not classifiable as a human carcinogen.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Sodium disulphite (CAS 7681-57-4)	3 Not classifiable as to carcinogenicity to humans.	
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	No data available.	
<b>Specific target organ toxicity - repeated exposure</b>	No data available.	
<b>Aspiration hazard</b>	Not classified.	
<b>Other information</b>	None known.	

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test results
Sodium hydroxide (CAS 1310-73-2)		
<b>Aquatic</b>		
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
<b>Persistence and degradability</b>	No data is available on the degradability of this product.	
<b>Bioaccumulative potential</b>	No data available.	
<b>Partition coefficient n-octanol / water (log Kow)</b>	No data available.	
<b>Mobility in soil</b>	No data available.	
<b>Other adverse effects</b>	None known.	

## 13. Disposal considerations

<b>Disposal methods</b>	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.
<b>Residual waste</b>	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).
<b>Contaminated packaging</b>	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

Sodium hydroxide (CAS 1310-73-2)

For domestic use, in liquid or semi-sold food additive preparations, PH>11.5

#### Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

#### Australia Medicines & Poisons Appendix E

Sodium disulphite (CAS 7681-57-4)

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.

Sodium hydroxide (CAS 1310-73-2)

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., If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes., If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

#### Australia Medicines & Poisons Appendix F

Sodium disulphite (CAS 7681-57-4)

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

Sodium hydroxide (CAS 1310-73-2)

in preparations Irritant. Avoid contact with eyes., Avoid contact with skin., Wash hands after use.

in solid preparations Corrosive., May produce severe burns., Attacks skin and eyes. Wear eye protection when mixing or using., Wear protective gloves when mixing or using., Do not mix with hot water.

liquid preparations Corrosive., May produce severe burns., Attacks skin and eyes. Wear eye protection when mixing or using., Wear protective gloves when mixing or using.

#### 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)

Sodium hydroxide (CAS 1310-73-2)

when packed for domestic use. Exception was applied to data in preparations being: (a) solid preparations the pH of which in a 10 g/L aqueous solution is more than 11.5; (b) liquid or semi-solid preparations the pH of which is more than 11.5

**Australia Medicines & Poisons Schedule 6**

Sodium hydroxide (CAS 1310-73-2)

applies to all preparations in any concentration Exception may apply, see the regulation for relevance.

**Australia Medicines & Poisons Schedule 7**

Poisons schedule number not allocated.

**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.

Sodium hydroxide (CAS 1310-73-2)

> 1000000 TONNES See the regulation for additional information.

**Importation of Ozone Depleting 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

Country(s) or region	Inventory name	On inventory (yes/no)*
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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
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

<b>Issue date</b>	31-July-2014
<b>Revision date</b>	27 -March-2016
<b>Key abbreviations or acronyms used</b>	LD50: Lethal Dose, 50%. LC50: Lethal Concentration, 50%. EC50: Effective concentration, 50%.
<b>References</b>	ESIS (European chemical Substances Information System)
<b>Disclaimer</b>	The information in the sheet was written based on the best knowledge and experience currently available.