

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



## Invertase "Bio-Invert" A01818

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

#### 1.1 Product identifier

Product name: Invertase "Bio-Invert"  
Product number: A01818

CAS No.:  
EC No.:  
Index No.:

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

Identified use(s): Laboratory chemicals. Manufacture of substances.  
Uses advised against: Follow supplier's recommendations on correct use of the product.

#### 1.3 Details of the supplier of the safety data sheet

Supplier: Philip Harris  
2 Gregory Street  
Hyde  
Cheshire  
SK14 4HR

Telephone: +44 (0)845 1200 506

Fax: +44 (0)161 367 2140

E-mail: [enquiries@philipharris.co.uk](mailto:enquiries@philipharris.co.uk)

#### 1.4 Emergency telephone number

In case of emergency, call: +44 (0)845 1200 506  
Monday – Friday: 08:30 – 17:00 UK time

### SECTION 2: Hazard Identification

#### 2.1 Classification of the substance or mixture

##### 2.1.1. Classification according to Regulation (EC) No. 1272/2008 (CLP)

Not a hazardous substance or mixture according to the above regulation.

##### 2.1.2. Classification according to Directive 67/548/EEC & Directive 1999/45/EC

Not a hazardous substance or mixture according to the above regulation.

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



## 2.2 Label elements

### 2.2.1. Label according to Regulation (EC) No. 1272/2008 (CLP)

The product does not need to be labelled in accordance with EC directives or respective national laws.

Hazard pictogram(s): none

Signal Word: Warning

Hazard Statement(s): None

Precautionary Statement(s): None

Supplemental Hazard information (EU): None.

## 2.3 Other hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical name	% w/w	CAS No.	EC No.	Index No.	Classification (Regulation (EC) No. 1272/2008 (CLP))	Classification (Directive 67/548/EEC)

See Section 16 for full description of R phrases and H statements.

## SECTION 4: First Aid Measures

### 4.1 Description of first aid measures

**INHALATION:** Remove person to fresh air and keep comfortable for breathing. Keep warm and at rest. If irritation persists or if you feel unwell, obtain immediate medical attention.

**SKIN CONTACT:** Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Obtain immediate medical attention. Contaminated clothing should be washed before reuse.

**EYE CONTACT:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing, making sure to rinse under eyelids. Obtain immediate medical attention.

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



**INGESTION:** Do not induce vomiting. Provided the patient is conscious, rinse mouth out with water and give 200-300 mL of water to drink. Never give anything by mouth to an unconscious person. Obtain immediate medical attention.

## 4.2 Most important symptoms and effects, both acute and delayed:

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

## 4.3 Indication of any immediate medical attention and special treatments needed:

In case of accident or if you feel unwell, seek medical advice immediately. If breathing is laboured, oxygen should be administered by qualified personnel.

## SECTION 5: Fire-fighting Measures

### 5.1 Extinguishing Media

**Suitable extinguishing media:** Water spray, CO<sub>2</sub>, sand, dry powder, alcohol-resistant foam

**Unsuitable extinguishing media:** Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

### 5.3 Advice for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary

## SECTION 6: Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### 6.1.1 For non-emergency personnel

Eliminate sources of ignition. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours/spray. Wear suitable personal protective equipment. Wear appropriate respirator when ventilation is inadequate (See Section 8).

#### 6.1.2 For emergency responders

Keep unnecessary personnel away. Wear suitable protective clothing (See Section 8). Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse.

### 6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

### 6.3 Methods and materials for containment and clearing up

#### 6.3.1 For containment

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



Stop the leak if it is safe to do so. Contain the spillage with sand, earth or any suitable adsorbent material.

## 6.3.2 For cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 6.3.3 Other advice

Do not let product enter the drains.

## 6.4 Reference to other sections

See Section 8 for personal protective equipment. See Section 13 for waste disposal.

## SECTION 7: Handling and Storage

### 7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

#### Workplace exposure limits

Substance	CAS No.	LTEL (8 hr TWA)		STEL (15 min)		Comments
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	
Contains no substances with occupational exposure limit values.						

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

General educational / industrial hygiene practice.

#### 8.2.2 Personal protection

##### Eye protection:

Goggles or safety glasses with side shields giving complete protection to eyes (EN 166).

##### Skin protection:

Protective Clothing

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



<b>Hand protection:</b>	Chemical-resistant gloves conforming (EN 374). Nitrile rubber gloves are recommended for normal use. Butyl rubber gloves are recommended if the contents of the generator are released. Contact glove supplier to confirm suitable glove material, thickness and breakthrough times.
<b>Other:</b>	Long sleeve protective clothing.
<b>Respiratory protection:</b>	Not normally required. Dust mask if conditions are dusty.
<b>Thermal hazards:</b>	Not applicable.

## 8.2.3 Environmental exposure controls

Inform environmental manager of all incidents involving this product.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Appearance:</b>	Form: Crystalline, Colour: Colourless White
<b>Odour:</b>	No data available
<b>Odour threshold:</b>	Not data available.
<b>pH:</b>	10.5 - 12
<b>Melting/freezing point:</b>	169 deg C
<b>Initial boiling point and boiling range:</b>	288 deg C at 1,013 hPa – Decomposes below the boiling point
<b>Flash point:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid; gas):</b>	No data available
<b>Upper/lower flammability or explosive limits:</b>	No data available
<b>Vapour pressure:</b>	No data available
<b>Vapour density:</b>	No data available
<b>Relative density:</b>	No data available
<b>Solubility(ies):</b>	678 g/l at 20 deg C
<b>Partition coefficient: n-octanol/water:</b>	Log Pow:-2.31 at 20 deg C
<b>Auto-ignition temperature:</b>	The substance or mixture is not classified as oxidizing
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Explosive properties:</b>	No data available
<b>Oxidising properties:</b>	The substance or mixture is not classified as oxidizing

### 9.2 Other information

None known.

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



## SECTION 10: Stability and Reactivity

10.1	Reactivity	No data available
10.2	Chemical stability	Stable under recommended storage conditions.
10.3	Possibility of hazardous reactions	No data available
10.4	Conditions to avoid	Hygroscopic
10.5	Incompatible materials	Strong Oxidizing agents.
10.6	Hazardous decomposition products	Other decomposition products – no data available. In the event of fire: see section 5

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects

Acute toxicity	LD50 Oral – rat - > 5,000 mg/kg LD50 dermal – rat - > 5,000 mg/kg. (OECD Test Guidance 402)
Skin corrosion/irritation	Skin – rabbit, no skin irritation (OECD Test Guidance 404)
Serious eye damage/irritation	Eyes – rabbit, no eye irritation (OECD Test Guidance 405)
Skin sensitisation	Buehler test – guinea pig, does not cause skin sensitisation (OECD Test Guidance 406)
Respiratory sensitisation	Buehler test – guinea pig, does not cause respiratory sensitisation (OECD Test Guidance 406)
Germ cell mutagenicity	Not mutagenic in Ames test. In vitro assay result negative. In vitro tests did not show mutagenic effects.
Carcinogenicity	In vivo tests did not show any chromosomal changes. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available
Specific Target Organ Toxicity – single exposure	No data available
Specific Target Organ Toxicity – repeated exposure	No data available
Aspiration hazard	No data available

### Information on likely routes of exposure

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation
Skin contact	May be harmful if absorbed through skin. Causes skin irritation
Eye contact	May be harmful. Causes eye irritation
Ingestion	Harmful if swallowed

**Symptoms related to the physical, chemical and toxicological characteristics** No data Available

**Mixture versus substance Information** No data Available

**Other information**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



## SECTION 12: Ecological Information

12.1	<b>Toxicity</b>	Toxicity to daphnia and other aquatic invertebrates EC50 – Daphnia - > 980 mg/l – 48h Toxicity to algae: EC50 – Algae – 397 mg/l – 72h NOEC – Algae – 100 mg/l – 72h
12.2	<b>Persistence and degradability</b>	Readily biodegradable.(OECD Test Guideline 201F)
12.3	<b>Bioaccumulative potential</b>	No bioaccumulation is to be expected (log Pow <=4).
12.4	<b>Mobility in soil</b>	No data available
12.5	<b>Results of PBT and vPvB assessment</b>	The substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
12.6	<b>Other adverse effects</b>	No data available

## SECTION 13: Disposal Considerations

13.1	<b>Waste treatment methods</b>	Offer surplus and non-recyclable solutions to a licensed disposal company.
------	--------------------------------	--

## SECTION 14: Transport Information

### ADR

14.1	<b>UN Number</b>	Not dangerous goods
14.2	<b>UN Proper shipping name</b>	Not dangerous goods
14.3	<b>Transport hazard class(es)</b>	Not dangerous goods
14.4	<b>Packing group</b>	Not dangerous goods
14.5	<b>Environmental hazards</b>	No
14.6	<b>Special precautions for the user</b>	Not dangerous goods

### ADN

14.1	<b>UN Number</b>	Not dangerous goods
14.2	<b>UN Proper shipping name</b>	Not dangerous goods
14.3	<b>Transport hazard class(es)</b>	Not dangerous goods
14.4	<b>Packing group</b>	Not dangerous goods
14.5	<b>Environmental hazards</b>	No
14.6	<b>Special precautions for the user</b>	Not dangerous goods

### RID

14.1	<b>UN Number</b>	Not dangerous goods
14.2	<b>UN Proper shipping name</b>	Not dangerous goods
14.3	<b>Transport hazard class(es)</b>	Not dangerous goods
14.4	<b>Packing group</b>	Not dangerous goods
14.5	<b>Environmental hazards</b>	No

# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



14.6 Special precautions for the user Not dangerous goods

## IATA/ICAO

14.1 UN Number Not dangerous goods  
14.2 UN Proper shipping name Not dangerous goods  
14.3 Transport hazard class(es) Not dangerous goods  
14.4 Packing group Not dangerous goods  
14.5 Environmental hazards No  
14.6 Special precautions for the user Not dangerous goods

## IMDG

14.1 UN Number Not dangerous goods  
14.2 UN Proper shipping name Not dangerous goods  
14.3 Transport hazard class(es) Not dangerous goods  
14.4 Packing group Not dangerous goods  
14.5 Environmental hazards No  
14.6 Special precautions for the user Not dangerous goods  
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code Not dangerous goods

## SECTION 15: Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This Safety Data Sheet was prepared in accordance with EC Regulation (EC) No. 1907/2006 as amended. The product has been classified in accordance with Regulation (EC) No. 1272/2008 (CLP), Directive 67/548/EEC & Directive 1999/45/EC.

### 15.2 Chemical Safety Assessment

A chemical safety assessment is not required and has not been carried out.

## SECTION 16: Other Information

### Full text of relevant R-phrases and/or H-statements:

Hazard Statement(s): None

Supplemental Hazard information (EU): None.

Risk phrase(s): None



# Safety Data Sheet

According to Regulation (EC)  
No. 1907/2006 (REACH)



## Abbreviations:

CAS:	Chemical Abstracts Service;
EINECS:	European Inventory of Existing Commercial Chemical Substances
EC <sub>50</sub> :	Effective Concentration 50%
EL <sub>50</sub> :	Effective Loading rate 50%
IC <sub>50</sub> :	Inhibitory Concentration 50%
LC <sub>50</sub> :	Lethal Concentration 50%
LD <sub>50</sub> :	Lethal Dose 50%
LL <sub>50</sub> :	Lethal Loading rate 50%
LCLo:	Lowest lethal concentration
LOEL:	Lowest Observed Effect Level
NOEL:	No Observed Effect Level
PBT:	Persistent, Bioaccumulative and Toxic.
vPvB:	Very Persistent and Very Bioaccumulative.

## References:

Supplier's Safety Data Sheets for ingredients  
ECHA disseminated REACH dossiers  
ECHA Classification & Labelling Inventory  
Approved Classification and Labelling Guide (Sixth edition)  
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP)  
Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP)

## Disclaimer:

THE INFORMATION PRESENTED HEREIN IS BELIEVED TO BE ACCURATE, BUT IS NOT WARRANTED TO BE, WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM, IN ADVANCE OF NEED, THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

## Version history:

Version:	1.0
Issue date:	21/01/2014
Previous Version:	-
Issue date of previous version:	-
Sections changed from previous version:	-