

Creation Date 03-Dec-2010

Revision Date 01-Mar-2019

Revision Number 5

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identification

<b>Product Description:</b>	<b>Phenylhydrazine</b>
<b>Cat No. :</b>	<b>296680000; 296680050; 296680250; 296685000</b>
<b>Synonyms</b>	Hydrazine, phenyl-; Hydrazine-benzene; Hydrazinobenzene
<b>CAS-No</b>	100-63-0
<b>EC-No.</b>	202-873-5
<b>Molecular Formula</b>	C6 H8 N2

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

<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	No Information available

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

<b>Company</b>	<b>UK entity/business name</b> Fisher Scientific UK Bishop Meadow Road, Loughborough, Leicestershire LE11 5RG, United Kingdom
----------------	--

<b>EU entity/business name</b> Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium
--

<b>E-mail address</b>	begel.sdsdesk@thermofisher.com
-----------------------	--------------------------------

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Acute oral toxicity	Category 3 (H301)
Acute dermal toxicity	Category 3 (H311)
Acute Inhalation Toxicity - Vapors	Category 3 (H331)

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

Skin Corrosion/irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Skin Sensitization	Category 1 (H317)
Germ Cell Mutagenicity	Category 2 (H341)
Carcinogenicity	Category 1B (H350)
Specific target organ toxicity - (repeated exposure)	Category 1 (H372)
<b>Environmental hazards</b>	
Acute aquatic toxicity	Category 1 (H400)

## 2.2. Label elements



Signal Word

Danger

### Hazard Statements

H301 - Toxic if swallowed  
H311 - Toxic in contact with skin  
H331 - Toxic if inhaled  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H341 - Suspected of causing genetic defects  
H350 - May cause cancer  
H372 - Causes damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
Combustible liquid

### Precautionary Statements

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
P311 - Call a POISON CENTER or doctor/ physician  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P273 - Avoid release to the environment

### Additional EU labelling

Restricted to professional users

## 2.3. Other hazards

No information available

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Phenylhydrazine	100-63-0	EEC No. 202-873-5	95	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350) STOT RE 1 (H372) Aquatic Acute 1 (H400)

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	Move to fresh air. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If not breathing, give artificial respiration.
<b>Self-Protection of the First Aider</b>	Use personal protective equipment.

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

Breathing difficulties. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

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

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

Suitable Extinguishing Media

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

## **Extinguishing media which must not be used for safety reasons**

No information available.

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

Combustible material. In the event of fire, cool tanks with water spray. Containers may explode when heated or if contaminated with water. Contact with metals may evolve flammable gas. Do not allow run-off from fire fighting to enter drains or water courses. Keep product and empty container away from heat and sources of ignition. Risk of ignition. Containers may explode when heated.

## **Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Ammonia, Benzene.

## **5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### **6.3. Methods and material for containment and cleaning up**

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not ingest. Keep away from open flames, hot surfaces and sources of ignition.

## **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

### **7.3. Specific end use(s)**

Use in laboratories

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): IRE - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	The United Kingdom	European Union	Ireland
Phenylhydrazine			TWA: 0.1 ppm 8 hr. TWA: 0.44 mg/m <sup>3</sup> 8 hr. STEL: 0.3 ppm 15 min STEL: 1.32 mg/m <sup>3</sup> 15 min Skin

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

**Derived No Effect Level (DNEL)** No information available

<u>Route of exposure</u>	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

#### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

#### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers recommendations	-	EN 374	(minimum requirement)
Neoprene				
Natural rubber				
PVC				

**Skin and body protection** Long sleeved clothing

Inspect gloves before use.

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

## Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

## Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

## Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Dark amber	
<b>Physical State</b>	Liquid	
<b>Odor</b>	aromatic	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	19 °C / 66.2 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	238 - 241 °C / 460.4 - 465.8 °F	
<b>Flash Point</b>	89 °C / 192.2 °F	<b>Method -</b> No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	0.06 hPa @ 20 °C	
<b>Vapor Density</b>	3.7 (Air = 1.0)	(Air = 1.0)
<b>Specific Gravity / Density</b>	1.090	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	145 G/L (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Phenylhydrazine	1.31	
<b>Autoignition Temperature</b>	174 - °C / 345.2 - °F	
<b>Decomposition Temperature</b>	243 °C	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>	No information available	explosive air/vapour mixtures possible
<b>Oxidizing Properties</b>	No information available	

### 9.2. Other information

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

Molecular Formula C6 H8 N2  
Molecular Weight 108.14

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity** None known, based on information available

**10.2. Chemical stability** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

**Hazardous Polymerization** Hazardous polymerization does not occur.  
**Hazardous Reactions** None under normal processing.

### 10.4. Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5. Incompatible materials

lead oxides. Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Ammonia. Benzene.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

#### (a) acute toxicity;

**Oral** Category 3  
**Dermal** Category 3  
**Inhalation** Category 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phenylhydrazine	LD50 = 188 mg/kg ( Rat )	LD50 = 90 mg/kg ( Rabbit )	

**(b) skin corrosion/irritation;** Category 2

**(c) serious eye damage/irritation;** Category 2

#### (d) respiratory or skin sensitization;

**Respiratory** No data available  
**Skin** Category 1

May cause sensitization by skin contact

#### (e) germ cell mutagenicity;

Category 2

Mutagenic effects have occurred in experimental animals

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

(f) carcinogenicity; Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Phenylhydrazine	Carc Cat. 1B		Cat. 3B	

(g) reproductive toxicity;  
Reproductive Effects No data available  
May cause heritable genetic damage.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 1  
Target Organs Eyes, Skin, Respiratory system, Central nervous system (CNS), Blood, Liver, Kidney.

(j) aspiration hazard; No data available

Other Adverse Effects Carcinogenic effects have been reported in experimental animals

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting:  
Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Phenylhydrazine	LC50: 0.16 - 0.25 mg/L, 96h static (Brachydanio rerio)	EC50: 2.0 - 5.0 mg/L, 24h (Daphnia magna)		EC50 = 175.2 mg/L 1 h

### 12.2. Persistence and degradability

#### Persistence

Persistence is unlikely.

#### Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Phenylhydrazine	1.31	5

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

ACR29668



# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues / Unused Products**

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**European Waste Catalogue (EWC)**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

**Other Information**

Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

**14.1. UN number**

UN2572

**14.2. UN proper shipping name**

PHENYLHYDRAZINE

**14.3. Transport hazard class(es)**

6.1

**14.4. Packing group**

II

### ADR

**14.1. UN number**

UN2572

**14.2. UN proper shipping name**

PHENYLHYDRAZINE

**14.3. Transport hazard class(es)**

6.1

**14.4. Packing group**

II

### IATA

**14.1. UN number**

UN2572

**14.2. UN proper shipping name**

PHENYLHYDRAZINE

**14.3. Transport hazard class(es)**

6.1

**14.4. Packing group**

II

**14.5. Environmental hazards**

Dangerous for the environment  
Product is a marine pollutant according to the criteria set by IMDG/IMO

**14.6. Special precautions for user**

No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories**

X = listed.

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Phenylhydrazine	202-873-5	-		X	X	-	X	X	X	X	KE-28379

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Phenylhydrazine		Use restricted. See item 28. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	

## National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Phenylhydrazine	WGK 3	Class I : 20 mg/m <sup>3</sup> (Massenkonzentration)

Component	France - INRS (Tables of occupational diseases)
Phenylhydrazine	Tableaux des maladies professionnelles (TMP) - RG 50

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

- H301 - Toxic if swallowed
- H311 - Toxic in contact with skin
- H331 - Toxic if inhaled
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H341 - Suspected of causing genetic defects
- H350 - May cause cancer
- H372 - Causes damage to organs through prolonged or repeated exposure
- H400 - Very toxic to aquatic life

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

# SAFETY DATA SHEET

Phenylhydrazine

Revision Date 01-Mar-2019

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

**Key literature references and sources for data**

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Training Advice**

Chemical incident response training.

**Creation Date** 03-Dec-2010  
**Revision Date** 01-Mar-2019  
**Revision Summary** Not applicable.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**