



## ***TAG SOLVENT PRODUCTS (PTY) LTD.***

### ***MATERIAL SAFETY DATA SHEET*** ***N-BUTYL ACETATE***

#### **1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

<b>Common name</b>	: n-Butyl Acetate		
<b>Supplier</b>	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600		
<b>Synonym</b>	: Not available		
<b>Trade name</b>	: n-Butyl Acetate		
<b>Manufacturer</b>	: BP Southern Africa (Pty) Ltd PO Box 6006 Roggebaai 8012 TEL: 011 408 2911 FAX: 011 4082218	<b>In case of emergency</b>	TAG: 011 822 1600 BP Southern Africa (Pty) Ltd: 0800 222 166

#### **2 COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Name</b>	<b>Product Trivial Name</b>	<b>Product Formal Name</b>	<b>Product Chemical Family</b>	<b>CAS#</b>
n-Butyl Acetate	BuAc	BUTYL ACETATE	Aliphatic ester	123-86-4

### 3 HAZARDS IDENTIFICATION

<b>Physical state and appearance</b>	: Liquid.
<b>Emergency overview</b>	: WARNING! FLAMMABLE
<b>Routes of entry</b>	: Eye contact. Ingestion. Inhalation. Skin contact.
<b>Potential acute health effects</b>	
<b>Eyes</b>	: Liquid may cause conjunctival irritation.
<b>Skin</b>	: Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis.
<b>Inhalation</b>	: Exposure to vapour at high concentrations may have the following effects: irritation of the nose, throat, respiratory tract, central nervous system depression, nausea, headaches, dizziness and/or drowsiness.
<b>Ingestion</b>	: Swallowing may have the following effects: irritation of the mouth, throat and digestive tract, nervous system depression, headaches, nausea, dizziness. A large dose may result in loss of consciousness.
<b>Potential chronic health effects</b>	: CARCINOGENIC EFFECTS: Not listed. MUTAGENIC EFFECTS: Not listed. TERATOGENIC EFFECTS: Not listed

See toxicological information (section 11)

### 4 FIRST AID MEASURES

<b>Eye contact</b>	: Check for and remove any contact lenses. Immediately flush the eyes with running water for at least 10 minutes, keep eyelids open. Avoid contaminating the unaffected eye. Get medical attention if soreness or redness persists.
<b>Skin contact</b>	: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if blistering occurs or redness persists. Contaminated clothing should be washed or dry-cleaned before reuse.
<b>Inhalation</b>	: If inhaled, remove to fresh air and allow victim to rest and keep warm. Get medical attention if victim feels unwell.
<b>Ingestion</b>	: DO NOT induce vomiting unless directed to do so by medical personnel. Wash out mouth. Keep warm and at rest. Have victim drink 240-300ml of water to dilute stomach contents. If vomiting occurs naturally, rinse out mouth and repeat administration of water. Keep warm and at rest. Get medical attention.

### 5 FIRE FIGHTING MEASURES

<b>Flammability of the product</b>	: Flammable
<b>Auto - flammability</b>	: 425°C
<b>Flash points (PMCC)</b>	: 25°C
<b>Explosion limits</b>	: LOWER: 1.7% UPPER: 7.6%
<b>Special hazards of product</b>	: BE aware of possibility of re-ignition. Vapours can travel a considerable distance to a source of ignition and flashback. This product gives off flammable vapours, which may form explosive mixtures with air. Containers may explode in heat or fire.
<b>Fire hazards in presence of various substances</b>	: Flammable in the presence of, open flames and sparks, of high temperatures.
<b>Unsuitable extinguishing media</b>	: Do not use water jet.

<b>Fire fighting media and instructions</b>	: Use water spray, alcohol-resistant foam, use DRY chemical powder or carbon dioxide. Keep surrounding containers and area cool with water sprays.
<b>Protective clothing (fire)</b>	: Be sure to use an approved/certified respirator or equivalent.
<b>NFPA Code</b>	: Health: 1 Exposure could cause irritation but only minor residual injury. Respiratory protection only required. Flammability: 3 Materials that can be easily ignited under most all normal temperature conditions. Reactivity: 0 Normally stable, even under fire conditions. Does not react with water. Based on the 1994 of the NFPA 325 Guide to Fire Hazard Properties

## 6 ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	: Wear appropriate protective clothing. Wear respiratory protection. Eliminate all sources of ignition. Consider need for evacuation. Vapours can accumulate in low areas. Ventilate contaminated area thoroughly. Vapour may form an explosive mixture with air.
<b>Environmental precautions</b>	: Try to prevent material by use temporary bund or impervious barrier. Try to prevent material from entering drains and water sources. Advise authorities if spillage has entered a water source or sewer or has contaminated soil or vegetation.
<b>Spillages</b>	: Allow to evaporate if it is safe to do so or and absorb using earth sand or other inert material. Transfer into suitable containers for recovery or disposal. Finally flush the area with plenty of water. Spillages will create a fire hazard.

## 7 HANDLING AND STORAGE

<b>Handling</b>	: Use only with adequate ventilation. Avoid inhaling vapour. Avoid contact with eyes, skin and clothing. Remove ignition sources. Avoid sparks. Do not smoke. Vessels should preferably be bottom filled. Where top filling has to be carried out, the filling arrangement should exclude, as far as possible, the possibility of splashing. Take precautionary measures against static discharges. Keep container tightly closed when not in use. Suitable equipment for dealing with fires, spills and leaks must be readily available.
<b>Storage</b>	: Storage area should be well ventilated and cool. Store away from sources of heat, sources of ignition and from incompatible materials. Storage and transfer equipment should be adequately earthed and bonded to prevent the accumulation of static charges. Storage tanks must be positioned with a bunded area. Electrical equipment should be flameproof or dust-tight according to local circumstances. Suitable storage materials are: mild steel, aluminum and its alloys, glass. PTFE: away from incompatible materials.

<b>8</b>	<b>EXPOSURE CONTROLS, PERSONAL PROTECTION</b>
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<b>Occupational exposure standards</b>	: UK EH40: OES 1150ppm (724mg/m <sup>3</sup> ) 8h TWA UK: OES 200ppm (966mg/m <sup>3</sup> ) 15 min TWA.														
<b>Engineering controls</b>	: Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure. Use of the basic principals of industrial hygiene will enable this material to be used safely. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure mechanical ventilation (dilution and local exhaust) and control process conditions. Administrative controls and personal protective equipment may also be requires. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal protective equipment, which is known to perform satisfactorily, should be used. There should be local procedures for the selection training, inspection and maintenance of this equipment.														
<b>Personal protection</b>	<table border="0"> <tr> <td style="padding-right: 20px;"><b>Eyes</b></td> <td>: Chemical Splash goggles or face shield.</td> </tr> <tr> <td><b>Body</b></td> <td>: Chemical resistant protective suite.</td> </tr> <tr> <td><b>Respiratory</b></td> <td>: Vapour respirator. Be sure to use an approved/certified or equivalent. Wear appropriate respirator when ventilation is inadequate.</td> </tr> <tr> <td></td> <td>: For maximum protection: Polyvival acetate gloves.</td> </tr> <tr> <td><b>Hands</b></td> <td>Splash resistance only: PVC or rubber gloves.</td> </tr> <tr> <td><b>Feet</b></td> <td>Not recommend red: Natural rubber gloves</td> </tr> <tr> <td></td> <td>: Chemical resistant safety boots.</td> </tr> </table>	<b>Eyes</b>	: Chemical Splash goggles or face shield.	<b>Body</b>	: Chemical resistant protective suite.	<b>Respiratory</b>	: Vapour respirator. Be sure to use an approved/certified or equivalent. Wear appropriate respirator when ventilation is inadequate.		: For maximum protection: Polyvival acetate gloves.	<b>Hands</b>	Splash resistance only: PVC or rubber gloves.	<b>Feet</b>	Not recommend red: Natural rubber gloves		: Chemical resistant safety boots.
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<b>Hands</b>	Splash resistance only: PVC or rubber gloves.														
<b>Feet</b>	Not recommend red: Natural rubber gloves														
	: Chemical resistant safety boots.														
<b>Protective clothing</b>	: Splash goggles or face shield. Full chemical resistant protective suit. Vapor respirator. Polyvival gloves. Chemical resistant boots.														

<b>9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Physical state and appearance</b>	: Liquid.
<b>Colour</b>	: Colourless. Clear.
<b>Odor</b>	: Fruity
<b>Boiling/condensation point</b>	: 126°C-126.5°C
<b>Melting/freezing point</b>	: -76.8°C
<b>Solubility in water (kg/m<sup>3</sup>)</b>	: 7°C - 20 °C
<b>Partition coefficient (LogPow)</b>	: 1.82
<b>Vapor pressure</b>	: 1.25 kPa (@ 20°C)
<b>Density</b>	: 881.5 (@20°C)
<b>Relative vapour density</b>	: 4 (Air = 1)
<b>Viscosity</b>	: 0.823 (@20°C)

<b>10</b>	<b>STABILITY AND REACTIVITY</b>
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<b>Stability and reactivity</b>	: The product is stable under normal conditions. Hydrolysed by strong acids, strong bases.
<b>Conditions to avoid</b>	: High temperatures (Heat), sources of ignition.
<b>Materials to avoid</b>	: Strong-oxidizing agents. Strong acids. Strong bases. Potassium tert-butoxide
<b>Hazardous decomposition products</b>	: Acetic acid. Combustion will generate oxides of carbon.

**11 TOXICOLOGICAL INFORMATION**

<b>Acute toxicity</b>		: Low order of acute toxicity. Oral LD50 (rat) >4700mg/kg. Dermal LD50 (rabbit) >5000mg/kg. Inhalation LC50 (mouse) 9.6-29.2 mg/litre/4h
<b>Irritancy</b>	<b>Eyes</b>	: The eye irritancy has been investigated by OECD Testy Method 405. Available data indicates that this material does not warrant labeling as an eye irritant.
	<b>Skin</b>	: A Single 4h semi-occlusive application to intact rabbit skin produced minimal signs of irritation (mean scores for erythema or oedema less than 2).
<b>Skin sensitisation</b>		: No known reports of sin sensitiasation.
<b>Sub-acute/subchronic toxicity</b>		: There are no reports of adverse long term effects following repeated exposure.
<b>Genotoxicity</b>		: No mutagenic activity has been reported in bacterial cells with or without metabolic activation.
<b>Reproductive/developmental toxicity</b>		: No convincing evidence of such effects.
<b>Additional data</b>		: Animal studies show that n-butyl acetate is rapidly hydrolysed in vlvo to n-butanol and acetic acid.

**12 ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>		: The product is rated as practically non-hazardous to aquatic species. Tests on the following species gave 96h LC50 of >164 mg/L (Island silverside). Tests on the following species gave 72h EC50 of 674 mg/L (Algae). Tests on the following species gave 18h EC50 of 960 mg/L (bacteria). Tests on the following species gave 24h EC50 of >205 mg/L (daphnia).
<b>Mobility</b>		: The product is volatile/gaseous and will partition to the air phase. If released to air it will disperse rapidly. If released to water the product will float. The product will dissolve slowly in water. If released to soil, it will evaporate at a rapid rate. The product is poorly absorbed onto soils or sediments.
<b>Bio-accumulation</b>		: Product is expected to bioaccumulate. Predicted bioconcentration factor = >4.0°C
<b>Persistence/Degradability</b>		: The product is readily biodegradable BOD 26 = 98% of ThOD°C. (Closed bottle test – BOD). Photochemical degradation in air will be fast. Considered by the United Nations as ‘less important’ in the formation of episodic ozone.

**13 DISPOSAL**

<b>Product disposal</b>	: Dispose of in accordance with all applicable local and national regulations. If correctly incinerated this material will decompose to carbon dioxide and water only. Use an approved disposal company
<b>Container disposal</b>	: Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near the container. Empty containers may contain hazardous residue. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. After cleaning, all existing labels should be removed.

#### 14 *TRANSPORT INFORMATION*

<b>UK Transport information</b>	UK Transport emergency Action Code: 3 (Y) UK Transport – Class 3
<b>UN Number</b>	1123
<b>Proper shipping name</b>	Butyl acetate
<b>ADR/RID Substance identification number</b>	1123
<b>ADR/RID - Class</b>	3
<b>ADR/RID – Item number</b>	31(C)
<b>ADR/RID – Hazard identification number</b>	30
<b>IMDG – Class</b>	3.3
<b>IMDG – Packaging group</b>	III
<b>IMDG – Marine pollutant</b>	No
<b>IMDG – Ems number</b>	3-07
<b>IMDG – MFAG Table number</b>	330
<b>IATA - Class</b>	3
<b>IATA – Packaging group</b>	III
<b>Tremcard number TEC(R)</b>	66

#### 15 *REGULATORY INFORMATION*

<b>Labeling Information</b>	: Flammable (no symbol required).
<b>R phases</b>	: R10: Flammable R66: Repeated exposure may cause skin dryness or cracking. R67: Vapour may cause drowsiness and dizziness.
<b>S phases</b>	: S2 Keep out of reach of children S26 In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<b>EINECS Number</b>	: 2046581
<b>EC Annex I Number</b>	: 607-025-00-1
<b>EC Annex I Classification</b>	: Flammable
<b>MITI Number</b>	: 2-731 2-735
<b>TSCA Listing</b>	: Yes
<b>AICS/NICNAS Listing</b>	: Yes
<b>DSL/NDSL (Canadian) Listing</b>	: DSL listed

#### 15 *OTHER INFORMATION*

<b>UK Legislation</b>	: Health and safety at Work etc Act, 1974 and relevant Statutory Provisions. Management of Health and safety at Work Regulations, 1992 (and amendments). Highly Flammable Liquid and Liquefied Petroleum Gases Regulations, 1972. Control of Substances Hazardous to Health (COSHH) Regulations, 1999. Personal Protective equipment and Work Regulations, 1992. Chemicals (Hazard Information and Packaging for Supply) Regulations, 1994 (as amended).
<b>UK further detailed guidance (current editions)</b>	: Health risks management. A guide to working with solvents, HSE 1998. INDG 272 Approved Code of Practice – Management of Health and safety at Work Regulations, 1992, HSE. General Approved Code of Practice of COSHH Regulations, HSE. EH26, Occupational Skin Diseases: Health and Safety Precautions, HSE. EH40, Occupational Exposure Limits, HSE. Revised Annually. EH42, Monitoring strategies for toxic Substances, HSE. HS(G)37, An Introduction to Local Exhaust Ventilation, HSE. HSG 53, The Selection, Use and Maintenance of Respiratory Protective Equipment, HSE. HS(G)65, Successful Health And Safety Management, HSE. HSG71 Chemical Warehousing: Storage of packaged dangerous substances. HSG97, A step by step guide to COSHH assessment. HS(G) 140, The safe use and handling of flammable liquids, HSE. HSG158, Flame arrestors: Preventing the spread of fires and explosions in equipment THAT CONTAINS FLAMMABLEGASES AND VAPOUR. Hs(g)173, monitoring strategy for toxic substances HSG178, The spraying of flammable liquids. HSC13, Health and safety regulations: a short guide. INDG182 COSHH: the new brief guide for employees. INDG 137 Grin and wear it: Respiratory protective equipment. INDG 227, Safe working with Flammable substances. INDG235, A guide to information, Instruction and training common provisions in health and safety law. INDG254, Chemical reaction hazards 1997. INDG @&@, Health risk management: a guide to working with solvents. INDG273, Working safety with solvents: a guide to safe working practices. HSE web address: <a href="http://open.gov.uk/hse/">http://open.gov.uk/hse/</a>

**Notice to reader:**

This MSDS summarizes at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use and transport the product in the workplace. Since TAG Solvent Products (PTY) LTD. and its subsidiaries cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond, and communicate such information to all relevant parties. If clarification or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part. In such event our liability shall be limited only to direct damages suffered. Our responsibility for the product as sold is subject to our standards terms and conditions, a copy of which is sent to our customers and is also available upon request. All risk with possession and application of the product passes on delivery.