TAG SOLVENT PRODUCTS (PTY)LTD.

MATERIAL SAFETY DATA SHEET
ACETONE

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common name	: Acetone		
Supplier	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600		
Synonym	: 2- propanone, Dimethyl ketone, Ketone propane, beta-Ketopropane		
Trade name	: Acetone		
Material uses	: Agricultural industry: Manufacture of chemical products. Coatings: manufacture of lacquers and lacquer thinners. Manufacture of resins. Consumer products: Cosmetics and deodorants preparations. Industrial applications: manufacture of organic products. Solvent for organic products. Paper industry: De-inking of paper. Pharmaceutical industry: Cosmetic. Solvent.		

2 COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS#	% By Weight	Exposure Limits
Acetone	67-64-1	99.9	**ACGIH TLV (United States, 2002).** TWA: 500 ppm TWA: 1188 mg/m^3 STEL: 750 ppm STEL: 1782 mg/m^3 **OSHA (United States, 2002).** TWA: 750 ppm TWA: 1800 mg/m^3 STEL: 1000 ppm STEL: 2400 mg/m^3

3 HAZARDS IDENTIFICATION

Physical state and appearance	: Liquid.
Emergency overview	: DANGER! FLAMMABLE LIQUID AND VAPOUR. VAPOUR MAY CAUSE FLASH FIRE. CAUSE EYE IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE SKIN IRRITATION Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact with of spilled material and runoff with soil and surface waterways
Routes of entry	: Eye contact. Ingestion. Inhalation. Absorbed through skin. TARGET ORGANS: Central nervous system, liver and kidneys.
Potential acute health effects	
Eyes	: Very hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering and itching.
Skin	: Hazardous in case of skin contact.
Inhalation	: Hazardous in case of inhalation
Ingestion	: Hazardous in case of ingestion
Potential chronic health effects	: CARCINOGENIC EFFECTS: Classified none. by OSHA, None. by NIOSH. A4 (Not classifiable for human or animal). by ACGIH, D (Not classifiable or human or animal.) by EPA. MUTAGENIC EFFECTS: Not listed. TERATOGENIC EFFECTS: Classified None for human.
Medical conditions aggravated by overexposure	: Persons with chronic respiratory or skin disease may be at increased risk from exposure
Overexposure/signs/ Symptoms	: Restlessness, slow reaction time, slurred speech, nausea, vomiting, dizziness, ataxia, intoxication, sensory disturbances, rapid pulse, sweating, drowsiness, stupor and finally coma. Hypertension, tachycardia, cold pale skin. Hypertension, slow stertorous respiration. Death from respiratory or circulatory failure or form aspiration pneumonia.

See toxicological information (section 11)

4 FIRST AID MEASURES

Eye contact	: Check for and remove any contact lenses. Immediately flush the eyes with running water for at least 15 minutes, keep eyelids open. Cold water may be used. Get medical attention immediately.
Skin contact	: In the case of contact, flush the skin with plenty of water for at least 15 minutes while removing the contaminated clothing and shoes. Cold water may be used. Wash clothes before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	: If inhaled, remove to fresh air. If not breathing apply artificial respiration. If breathing is laboured, give oxygen. Get medical attention if symptoms appear.
Ingestion	: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Notes to physician	: Support respiratory and cardiovascular function.

5 FIRE FIGHTING MEASURES

Flammability of the product	: Flammable
Autoignition temperature	: 465ºC (869ºf)
Flash points	: CLOSED CUP: -20ºC (-4ºF).
Flammable limits	: LOWER: 2.6% UPPER: 12.8%
Products of combustion	: These products are carbon oxides (CO, CO_2)
Fire hazards in presence of various substances	: Extremely flammable in the presence of open flames and sparks, of heat. Flammable in presence of reducing materials. Slightly flammable to flammable in presence of oxidizing materials, of combustible materials. Non-flammable in presence of shocks
Explosion hazards in presence of various substances	: Risks of explosion of the product in the presence of static discharge: Yes. Non-explosive in presence of shocks. Vapour -air mixtures are explosive with in flammable limits.
Fire fighting media and instructions	: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet on order to prevent pressure build-up, autoignition or explosion.
Protective clothing (fire)	: Wear MSHAINIOSH approved self-contained breathing apparatus or equivalent and full protective gear
Special remarks on fire hazards	: Heated containers may rupture violently from excessive heat.
Special remarks on explosive hazards	: Acetone may form explosive mixtures with chromic aldehyde, hydrogen peroxide, nitric acid, acetic acid.

6 ACCIDENTAL RELEASE MEASURES

Small spill or leak	: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large spill or leak	: Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Use water sprays to reduce vapours. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

7 HANDLING AND STORAGE

Handling	: Keep away from heat sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
Storage	: Store in segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark of flame).

8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering controls	: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below their respective threshold limit values. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal protection	
Eyes	: Splash goggles.
Body	: Chemical resistant protective suite.
Respiratory	: Vapour respirator. Be sure to use an approved/certified or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	: Butyl rubber gloves.
Feet	: Chemical resistant safety boots.
Protective clothing	: Splash goggles. Full chemical resistant protective suit. Vapor respirator. Butyl gloves. Chemical resistant boots.
Personal protection in case of large spills	: Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling the product.

Product name	**ACGIH TLV (United States, 2002).**
Acetone	TWA: 500 ppm TWA: 1188 mg/m^3 STEL: 750 ppm STEL: 1782 mg/m^3 **OSHA (United States, 2002).** TWA: 750 ppm TWA: 1800 mg/m^3 STEL: 1000 ppm STEL: 2400 mg/m^3

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	: Liquid.
Colour	: Colourless, Clear, volatile liquid with a characteristic sweetish (mint-like) odor. (Light)
Odor	: Pungent. Fruity. Minty. Pleasant. Sweetish. (Strong.)
Taste	: Pungent. Sweetish, astringent. (Strong.)
Molecular weight	: 58.08 g/mole
Molecular formula	: CH3COCH3
PH (1% soln/water)	: Not available
Boiling/condensation point	: 56.2ºC (133.2Fº)
Melting/freezing point	: -95.35ºC (-139.6Fº)
Critical temperature	: 235ºC
Specific gravity	: 0.79(water=1)
Vapor pressure	: 186.2mm of Hg (@20ºC)
Vapor density	: 2 (Air=1)
Volatility	: 100% @ º21C.
Odor threshold	: 100 ppm
Evaporation rate	: 11.6 (Butyl acetate = 1)
VOC	: 100 (%)
Viscosity	: 0.4Cst @2º0C
LogK_{ow}	: logK_{ow} = 0.58
Iconicity (in water)	: No data available.
Dispersion properties	: See solubility in water, methanol, diethyl ether, n-octanol.
Solubility	: Easily soluble in cold water, hot water, methanol, diethyl ether. Partially soluble in n-octanol
Physical chemical comments	: No additional remark.

10 STABILITY AND REACTIVITY

Stability and reactivity	: The product is stable.
Conditions of instability	: Heat, open flames, sparks, static discharge. Mat react vigorously with chloroform in the presence of a base.
Incompatibility with various substances	: Reactive with oxidizing agents, organic peroxides, chromium, chromic acid solution, potassium tert-butoxide, nitric acid and it's mixture with sulphuric acid, per monosulphuric acid, chromyl chloride, nitrosyl perchlorate and chloride, bromine, bromine trifluoride, hydrobromites, sulfur dichloride, dioxygen difluoride, aliphatic amines.
Hazardous decomposition products	: Carbon monoxide and carbon dioxide may form when heated to decomposition.
Hazardous polymerization	: Will not occur.

11 TOXICOLOGICAL INFORMATION

Toxicity to animals	: Acute oral toxicity (LD50): 5800mg/kg [Rat]. Acute toxicity of the gas (LC50): 50100mg/m^3 8 hour(s) [Rat]. Acute dermal toxicity (LD50): 20000 mg/kg [Rabbit].
Chronic effects on humans	: CARCINOGENIC EFFECTS: Classified None. by OSHA, by NIOSH A4 (Not classifiable for human or animal) by ACGIH, D (Not classifiable for human or animal) by EPA. TREATOGENIC EFFECTS: Classified None. For human. Causes damage to the following organs: kidneys, lungs, nervous system, liver, upper respiratory tract, skin, eyes
Other toxic effects on humans	: Very hazardous in case of skin contact (permeator), of eye contact (irritant). Hazardous in the case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (sensitizer)
Special remarks on toxicity to animals	: No additional remark.
Special remarks on chronic effects on humans	: No additional remark.
Special remarks on other toxic effects on humans	: Material is irritating to mucous membranes and upper respiratory tract.

12 ECOLOGICAL INFORMATION

Ecotoxicity	: Ecotoxicity in water: 5540 mg/l 96 hours [Trout]. 5000 mg/l 24 hours [Goldfish]. 8300 mg/l, 96 hours [Bluegill sunfish]. 2100 mg/l, 24 hours [shrimp]. 10,g/l, 48 hours [Daphnia].
BOD and COD	: BOD = 70.9% in 28 days, CO_2 Evolution Test (Modified Strum OECD 301B) and the EUC.4-C. (Sasol in-house results)
Biodegradable/OECD	: Biodegradable from OECD
Mobility	: No data available
Products of degradation	: Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise. Carbon oxides (CO, CO_2).
Toxicity of the products of biodegradation	: The products of degradation are non-toxic.
Special remarks on the products of biodegradation	: No additional remark.

13 DISPOSAL CONSIDERATIONS

Waste information	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste stream	: RCRA Hazardous Waste: F003, RQ of 5000lbs.

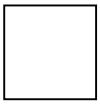
Consult your local or regional authorities.

14 TRANSPORT INFORMATION

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN 1090	ACETONE	DOT CLASS 3: Flammable liquid.	II		**Reportable quantity 5000 lbs. (2268 kg)**
TDG Classification	UN 1090	ACETONE	TDG CLASS 3: Flammable liquid.	II		**Special Provisions 0 9 9 Not acceptable for transport by passenger ship.**
IMDG Classification	UN 1090	ACETONE	IMDG CLASS 3.1: Flammable liquid.	II		
IATA-DGR Classification	UN 1090	ACETONE	IATA CLASS 3: Flammable liquid.	II		

15 REGULATORY INFORMATION

HCS Classification	: Class: Flammable liquid having flash point lower than 37. ºC (10ºF)
U.S. Federal regulations	: TSCA 5(e) substance consent order: Dimethylketone TSCA 8(a) IUR: Dimethylketone TSCA 8(b) inventory: Dimethylketone TSCA 12(b) one time export: Dimethylketone SARA 302/304/311/312 extremely hazardous substances: No reports were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution- chemical inventory – hazardous identification: NO products were found SARA 313 toxic chemical notification and release reporting: No products were found. Clean water act (CWA) 307: No products were found. Clean water act (CWA) 311: No products were found. Clean water act (CAA) 112 accidental release prevention: No products were found. Clean water act (CAA) 112 regulated flammable substances: No products were found. Clean water act (CAA) 112 regulated toxic substances: No products were found.
State regulations	: Rhode Island RTK hazardous substances: Dimethylketone Pennsylvania RTK: Dimethylketone Florida: Dimethylketone Minnesota: Dimethylketone Massachusetts: Dimethylketone New Jersey: Dimethylketone New Jersey spill list: Dimethylketone California prop. 65: No products were found

EU regulations	
Hazardous symbol(s)	
Classification	: Highly flammable
Risk phrases	: R11 – Highly flammable R36 – Irritating to eyes R66 – Repeated exposure may cause skin dryness or cracking R67 – Vapours may cause drowsiness and dizziness.
Safety phrases	: S9 – Keep container I well ventilated place. S16 – Keep container away from sources of ignition – No smoking. S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
EINECS Number	: 200-622-2

16 OTHER INFORMATION

National Fire Protection Association (U.S.A.)	
References	: - Material safety data sheet emitted by: la commission de la Sante et de la Securite du travail du Quebec. - The Sigma-Aldrich Library of Chemical Safety Data, Edition ll. - Hawley, G.G.. The Condensed Chemical dictionary, 11e ed., New Yoirk N.Y., Van Nostrand Reinold, 1987. -LOLI Database: The regulated List of Lists. - CHEMINFO: Canadian Centre for Occupational Health and Safety, Issue: 97-3 (August 1997). – BDH; Hazard Data Disk, Version 3. – CESARS: Chemical Evaluation and Retrieval System, Produced by: Ontario Ministry of Environment and Michigan Department of Natural Resources, Issue 97-3 (August 1997). – TOMES Plus System: Toxicology, Occupational Medicine & Environmental Series: incorporating: - MEDITEX, HAZARDTEXT, 1st Medical Response Protocols, INFOTEXT, HSDB, CHRIS, OHM/TAD, IRIS, NIOSH Pocket Guide, RTECS, NJ Facts Sheets, North American Emergency Response Guides, REPROTEXT, REPROTOX, TERIS, Shepard's Catalog of Teraogenic Agents.
Other special considerations	: No additional remarks.
Date of Printing	: 12/02/2004
Date of issue	: 12/02/2004
Version	
Verified by	

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 it's 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.