ISSUE:	G
DATE:	18-01-01
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1. IDENTIFICATION OF THE SUBSTANCE AND COMPANYPRODUCT NAMETRIACETIN

ALTERNATIVE NAMES

GLYCEROL TRIACETATE 1,2,3 PROPANETRIOL TRIACETATE

FORMULA

CH₃COOCH₂CH(OCOCH₃)CH₂OCOCH₃

MOLECULAR WEIGHT

218.21

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Recommended Use of the Product

Plasticizer and solvent

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS No.	EC No.	Content (%)	Hazard Classification
Triacetin (Pure)	102-76-1	203-051-9	>99.2	Not classified as hazardous

There are no impurities present at a level that require to be included under EC Directive 67/548/EEC.

3. HAZARD CLASSIFICATION

SUMMARY Not classified as hazardous

For more details see Sections 8, 11, 13 and 14.

Amendment to Sections 7, 9, 11, 12, & 14 on Issue G (marked ^)

4. FIRST AID MEASURES

Rinse continuously with water for at least 10 minutes.
Shower immediately and remove contaminated clothing.
Fresh air and rest.
Rinse mouth with water and give small amounts of water to drink. NEVER GIVE AN UNCONSCIOUS PATIENT WATER TO DRINK. DO NOT INDUCE VOMITING. SEEK IMMEDIATE MEDICAL ATTENTION.
Bearing in mind this material is not classified as hazardous, it is only necessary to consult a doctor for a major exposure; this is likely to be a large ingestion. Show medical staff substance data sheet or ensure information accompanies patient.

5. FIRE FIGHTING MEASURES

HAZCHEM CODE (UK only)NoneEXTINGUISHING MEDIACO2, Powder, Alcohol-resistant foam, Water (+ spray).

SPECIAL FIRE FIGHTING PROCEDURES

There is a possibility of decomposition in a fire. Therefore the use of breathing apparatus is advisable.

UNUSUAL FIRE & EXPOSURE HAZARDS Decomposition material could be toxic.

6. ACCIDENTAL RELEASE MEASURES

Recover materials if possible. Also absorb spilled substance in sand or inert substance and remove to a safe place. Prevent material entering drains with absorbent socks and drain protectors. After absorption and recovery, wash away traces with large amounts of water. Any absorbent material used to mop up a spill to be disposed of in a closed metal container.

Protective Equipment to be worn for large spill (>30litres) – Chemical splash resistant overalls, Wellingtons, chemical resistant PVC gauntlets and visor.

Protective Equipment to be worn for small spill (<30litres) – Industrial overalls, Boots, chemical resistant PVC gauntlets and visor.

^7. HANDLING AND STORAGE

HANDLING

Use in well ventilated areas. Keep containers tightly closed when not in use. Open and handle containers with care. Store in original containers. Avoid excessive breathing of vapours. Avoid accumulation of static charge, especially in high mixing systems (low electrical conductivity see Section 9). Emergency shower and eyewash should be close by. Electrical equipment to be suitable for electrical apparatus group and temperature class of the material (see Section 9).

^STORAGE

Store away from oxidising agents. Suitable storage material – 316 Stainless Steel. Do NOT use galvanised metal. Suitable seals - Perfluoroelastomer (Kalrez), suitable gaskets – graphite supported on 316 Stainless steel or asbestos free aramid fibre composite. Storage tanks to be bunded to contain 110% of tank contents, or as local regulations. This product may attack concrete surfaces, particularly in the presence of water. Under certain circumstances, crystallisation can occur when the temperature drops below 4°C. One cause is believed to be due to some form of contamination; it is strongly recommended that any bulk storage facility be protected from the ingress of airborne contamination, unless the product is maintained above 4°C.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

VENTILATION	No special ventilation required unless used in a spray form. If a spray form is used, suitable ventilation equipment is required. However engineering controls should be aimed for to prevent the need for ventilation.	
PROTECTIVE EQUIPMEN	Γ for normal operation, (see section 6 for a spill).	
BREATHING	No respiratory protection is required, unless subject to mist contact. See above comments under ventilation.	
PROTECTIVE GLOVES	Use protective gloves/gauntlets made of PVC.	
EYE PROTECTION	Wear close fitting goggles or visor when handling, e.g. sampling.	
OTHER PROTECTION	Wear normal industrial work wear to prevent skin contact.	
OCCUPATIONAL EXPOSURE LIMITS		

Since this material is not classified as hazardous under the EC Directive 67/548/EEC, there are no occupational exposure limits.

^9. PHYSICAL AND CHEMICAL PROPERTIES

Colour	Colourless
State at 20°C	Liquid
Odour	Odourless
Solubility in water at 25°C (%)	6.1
Solubility of water in product at 20°C (%)	Not Determined
Specific Gravity at 25°C	1.156
Evaporation Rate (Butyl Acetate = 1) at 20°C	0.0002
Vapour Pressure at 20°C	0.0023 mm Hg
Vapour Density (Air = 1)	7.56
Melting Point	4 °C. However material can supercool down to -37°C, if no seeding material present.
Boiling Point	266 °C
Viscosity	23 mPas at 20°C
Flash Point	138 °C, minimum value, depending on purity.
Flash Point Method	Open Cup
Auto Ignition Temperature	433.33 °C
Flammability Limit - Lower	1.05% @ 189°C
Flammability Limit - Upper	7.75% @ 215°C
Decomposition Temperature	Not Determined
Odour Threshold	Not Determined
Henry's Law Constant	0.001 Pa m³/mol
Electrical Conductivity	$0.026 - 0.034 \ \mu S/cm$
Gas Group and Temperature Class	Group IIB Class T2
^Log Octanol/Water Partition Coefficient	0.25 (measured)

10. STABILITY AND REACTIVITY

STABILITY TO HEAT		Stable to boiling poin	ıt.
REACTIVITY		Reacts with strong ox	idising agents.
REACTION WITH WATER		Very slow hydrolysis Acetic acid.	can occur to Glycerol and
POLYMERISATION HAZARD		None.	
^11. TOXICOLOGICAL INF	ORM	ATION	
TOXICOLOGICAL DATA	LD ₅₀ C	Oral (rat)	3000mg/kg
ACUTE EFFECTS			
EYE CONTACT	Mild I	rritation.	
SKIN CONTACT	No hai	mful effects.	
INHALATION	Very u	nlikely.	
INGESTION	Effects dosage		losage. None for small
^CHRONIC EFFECTS	showe		ur for 64 days at 250 ppm NOAEL for repeated dose oral kg/day.
CARCINOGENICITY	•	ve result in the Ames t nella test.	test. Non mutagenic in

^12. ECOLOGICAL INFORMATION

Water danger/protection: WGK 2 Acute fish toxicity-LC0: LD0: 100 mg/l 3d. Exp.Goldorfe (Leuciscus idus)

^13. DISPOSAL CONSIDERATIONS

^Waste ProductRecycle if possible, but if not, then send to a treatment plant.^PackagingSteel drums can be cleaned and re-used if in good condition, or
recycle as scrap metal. IBCs and plastic drums can be cleaned and
re-used if in good condition, as there will be negligible odour pick
up by the plastic. If not suitable to re-use then either clean out,
shred and landfill, if permitted or clean, granulate and recycle the
plastic granules. The IBC cage can be re-used.NOTEUser must ensure that this complies with all local/national laws.

14. TRANSPORT INFORMATION

together with food, seed and fertilizer.

UN No	Not Classified	
PACKING GROUP	Not Classified	
ADR/SEA/AIR CLASS No.	Not Classified	
ADR HAZARD ID No.	Not Classified	
CEFIC TEC(R) (TREMCARD) No.	Not Classified	
HAZCHEM (UK only)	None	
LABELS	None	
DOT	NOT REGULATED	
ICAO/IATA	NOT REGULATED	
IMO	NOT REGULATED	
NONE HAZRDOUS FOR SEA TRANSPORT ACCORDING TO IMO IMDG CODE		
According to International maritime Dangerous Goods Code(IMDG CODE),		
This product is non-danger material, keeping on ventilated and dry area, and prevent moist and sun, not put		

^15. REGULATORY INFORMATION

LABELS FOR SUPPLY None

RISK PHRASES None

SAFETY PHRASES None

^Relevant Regulations

[^]Dangerous Substances Directive 67/548/EEC, currently at 8th Amendment and 29th Adaptation Dangerous Preparations Directive 1999/45/EC, currently at 1st Amendment [^]Safety Data Sheets Directive 91/155/EEC, currently at 2nd Amendment

[^]Listed on the following Inventories:- TSCA (USA), DSL (Canada), EINECS (Europe), AICS (Australia), ECL (Korea), PICCS (Philippines), ENCS (Japan) & Swiss (List of Toxic Substances 1 – Toxic Cat 5).

^NFPA Rating Codes (US) Health – 0, Flammability – 1, Reactivity – 0.

16. OTHER INFORMATION

INFORMATION SOURCES References and data sources can be supplied on request.

COMMENTS

While Yixing Tianyuan Chemical endeavour to ensure that all advice given relating to the use and/or application of our products (whether in this leaflet or otherwise) is both correct and useful, the information is based partly on data made available to us from other sources and is not guaranteed as accurate. It is not intended in any way to be exhaustive or as a substitute for the customers own product testing, evaluation and safety procedures.

If you have any queries over the suitability or safety precautions required for your particular application, please contact us and we will endeavour to assist you further. Customers who make use of the product without contacting us do so at their own risk.

The information contained in this leaflet is under continuous review and liable to be modified from time to time.

NAMEMR shao wei.chenPOSITIONTECHNOLOGY ADVISOR