SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

Revision number: 2 Revis		Revision date: 04/11/2019
SECTION 1. Identification of the su	bstance/mixture and of the company/undertaking	
1.1 Product identifiers	betarie of the of the company and stating	
Product name:	Ethyl Pyruvate	
Product code:	P0891	
1.2 Relevant identified uses of the subs Identified uses:	tance or mixture and uses advised against Reagents.	
1.3 Details of the supplier of the safety Supplier:	data sheet	
TCI EUROPE N.V. Boerenveldseweg 6 Haven 1063		
B-2070 Zwijndrecht		
Telephone: +32(0)3 735 07 00		
E-mail: sales-eu@tcichemicals.	com	
1.4 Emergency telephone number:	+32(0)70 245 245	
SECTION 2: Hazards identification		
2.1 Classification of the substance or m	ixture	
Flammable liquids	Category 3	
Signal word	Warning	
Hazard statements	H226-Flammable liquid and vapour.	
Precautionary statements	P210-Keep away from heat/sparks/open flames/hot surfaces	s No smoking.
	P233-Keep container tightly closed.	
	P280-Wear protective gloves, eye protection. P303+P361+P353-IF ON SKIN (or hair): Take off immediate	ly all contaminated clothing. Rinse skin
	with water or shower.	
	P370+P378-In case of fire: Use dry chemical or dry sand to e	extinguish.
2.3 Other hazards	P403+P235-Store in a well-ventilated place. Keep cool.	
Results of PBT and vPvB assessmen	t	
PBT:	Not applicable	
vPvB:	Not applicable	
SECTION 3: Composition/informati	on on ingredients]
3.1 Substances		
Components:	Ethyl Pyruvate	
Percent:	>97.0%(GC)	
CAS RN:	617-35-6	
EC-No:	210-511-2	
Synonyms:	Pyruvic Acid Ethyl Ester	
Chemical Formula:	C₅H8O3	

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SECTION 4: First aid measures	
4.1 Description of first aid measures	
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin contact:	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion:	Get medical advice/attention if you feel unwell. Rinse mouth.
Protection of first-aiders:	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

^{4.2} Most important symptoms and effects, both acute and delayed No data available

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures	
5.1 Extinguishing media Suitable extinguishing media: Unsuitable extinguishing media:	Dry chemical, foam, water spray, carbon dioxide. Solid streams of water
5.2 Special hazards arising from the substance or mixture	Carbon dioxide, Carbon monoxide
5.3 Advice for firefighters	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. When extinguishing fire, be sure to wear personal protective equipment
SECTION 6: Accidental release me	asures
6.1 Personal precautions, protective equipment and emergency procedures	Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc
6.2 Environmental precautions	Prevent product from entering drains
6.3 Methods and materials for containment and cleaning up	Absorb spilled material in dry sand or inert absorbent before recovering it into an airtight container. In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment.
6.4 Reference to other sections	For disposal see section 13.
SECTION 7: Handling and storage	
7.1 Precautions for safe handling	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Keep away from heat/sparks/open flame/hot surfacesNo smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid contact with skin, eyes and clothing.
7.2 Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store in an explosion-poof refregerator. Store under inert gas. Protect from moisture. Store away from incompatible materials such as oxidizing agents. Heat-sensitive, Moisture-sensitive
7.3 Specific end use(s)	No further relevant information available.
SECTION 8: Exposure controls/per	sonal protection
8.1 Control parameters	No data available
8.2 Exposure controls	Install a closed system or local exhaust. Also install safety shower and eye bath.
Respiratory protection: Hand protection: Eye protection: Skin and body protection:	Vapor respirator. Follow local and national regulations. Protective gloves. Safety glasses. A face-shield, if the situation requires. Protective clothing. Protective boots, if the situation requires.

SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical

9.1 Information on basic physical and ch	nemical properties
Physical state (20°C):	Liquid
Form:	Clear
Colour:	Very pale yellow - Pale yellow
Odour:	No data available
pH:	No data available
Melting point/freezing point:	-50°C
Boiling point/range:	142°C
Flash point:	51°C
Evaporation rate(Butyl Acetate=1):	No data available
Flammability(solid, gas):	No data available
Flammability or explosive limits:	
Lower:	1.6%
Upper:	10.8%
Vapour pressure:	No data available.
Vapour density:	No data available
Relative density:	1.05
Solubility(ies):	
[Water]	No data available
[Other solvents]	No data available
Partition coefficient:	No data available
n-octanol/water:	
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Dynamic Viscosity:	No data available
Kinematic viscosity:	No data available
0.0 Other setate information	No data available
9.2 Other safety information	IND UALA AVAIIADIE

SECTION 10: Stability and reactivity	
10.1 Reactivity	No data available
10.2 Chemical stability	Stable under proper conditions.
10.3 Possibility of hazardous reactions	No special reactivity has been reported.
10.4 Conditions to avoid	Spark, Open flame, Static discharge
10.5 Incompatible materials	Oxidizing agents

10.6 Hazardous decomposition products Carbon dioxide, Carbon monoxide

SECTION 11: Toxicological informa	tion
11.1 Information on toxicological effects	i de la construcción de la constru
Acute Toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	
IARC =	No data available
NTP =	No data available
Reproductive toxicity:	No data available
STOT-single exposure:	No data available
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

SECTION 12: Ecological informati	ion
12.1 Toxicity	
Fish:	No data available
Crustacea:	No data available
Algae:	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	
Log Pow:	No data available
Soil adsorption (Koc):	No data available
Henry's Law (PaM ³/mol):	No data available
12.5 Results of PBT and vPvB assessi	ment
PBT:	Not applicable
vPvB:	Not applicable
12.6 Other adverse effects	No data available
SECTION 13: Disposal considerat	ions
13.1 Waste treatment methods	
	sult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an oserve all federal, state and local regulations when disposing of the substance.
SECTION 14: Transport information	on
14.1 UN number	3272
14.2 UN proper shipping name	
ADR/RID	Esters, n.o.s
IMDG/IMO	Esters, n.o.s
ΙCAO/ΙΑΤΑ	Esters, n.o.s
14.3 Transport hazard class(es) ADR/RID IMDG/IMO ICAO/IATA	3: Flammable liquid 3: Flammable liquid 3: Flammable liquid

14.4 Packaging group ADR/RID IMDG/IMO ICAO/IATA	
14.5 Environmental hazards Marine pollutant	-
14.6 Special precautions for user	No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Substance of Very High Concern (SVHC) according to the Not listed REACH Regulations (EC) No.1907/2006

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information	
Prepared by:	TCI EUROPE N.V.
Issue date:	04/11/2019

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

End of Safety Data Sheet