



SAFETY DATA SHEET TYZOR 223

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name TYZOR 223

Recommended use of the chemical and restrictions on use

Application Catalysts/Cross-linking agent/Adhesion promoters. Not for consumer application.

Details of the supplier of the safety data sheet

Manufacturer Dorf Ketal Specialty Catalysts LLC
11200 Westheimer Road
Suite 400
Houston, Texas 77042
Phone= +1 713 343 2377
Fax= +1 832 649 7615
Email: ehss@dorketal.com

Emergency telephone number

Emergency telephone For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident) call CHEMTREC at +1(703) 527- 3887 or CHEMTREC India at 000-800-100-7141. For ALL other emergencies call DORF KETAL Emergency Control Room +91 2838 660532 & +91 260 2668784 .

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical hazards Flam. Liq. 3 - H226

Health hazards Eye Dam. 1 - H318 STOT SE 3 - H336

Environmental hazards Not Classified

Label elements

Hazard symbols



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapor.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.

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Precautionary statements	<p>P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.</p> <p>P240 Ground/ bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take precautionary measures against static discharge.</p> <p>P261 Avoid breathing vapor/ spray.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.</p> <p>P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a poison center/ doctor.</p> <p>P312 Call a poison center/ doctor if you feel unwell.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
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Contains Propan-1-ol

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

Propan-1-ol	30-60%
CAS number: 71-23-8	
Classification	
Flam. Liq. 2 - H225	
Eye Dam. 1 - H318	
STOT SE 3 - H336	

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Ingestion	Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Keep affected person under observation. Get medical attention if symptoms are severe or persist.

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Skin Contact	Rinse with water.
Eye contact	Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

Inhalation	May cause drowsiness or dizziness.
Skin contact	Causes serious eye damage.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour. Vapors may be ignited by a spark, a hot surface or an ember. Vapors may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard.
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Hazardous combustion products	None known.
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Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
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Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.
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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Evacuate area. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated. Avoid inhalation of vapors and spray/mists. Use suitable respiratory protection if ventilation is inadequate.
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Environmental precautions

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Environmental precautions Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Absorb small quantities with paper towels and evaporate in a safe place. Once evaporation is complete, place paper in a suitable waste disposal container and seal securely. Large Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. The contaminated absorbent may pose the same hazard as the spilled material. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions Store away from incompatible materials (see Section 10). Store locked up. Keep away from oxidizing materials, heat and flames. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Moisture-sensitive material. Once opened, container should be kept under nitrogen blanketing to prevent discoloration.

Storage class Flammable liquid storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

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Ingredient comments	71-36-3 butan-1-ol
	<p>PEL (USA) Long-term value: 300 mg/m³, 100 ppm</p> <p>REL (USA) Ceiling limit: 150 mg/m³, 50 ppm</p> <p>Skin</p> <p>TLV (USA) Long-term value: 61 mg/m³, 20 ppm</p> <p>PEL (Taiwan) Long-term value: 303 mg/m³, 100 ppm</p>

Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection

No specific hand protection recommended.

Other skin and body protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection

Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

Environmental exposure controls

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid
Color	Yellow.
Odor	Characteristic.
pH	pH (concentrated solution): 7-9
Initial boiling point and range	97°C
Flash point	23°C
Solubility(ies)	Soluble in water.
Other information	No data available.

10. Stability and reactivity

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Reactivity	See the other subsections of this section for further details.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	The following materials may react strongly with the product: Oxidizing agents.
Conditions to avoid	Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented.
Materials to avoid	Oxidizing materials. Acids - oxidizing.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

Summary Based on available data the classification criteria are not met.

Acute toxicity - dermal

Summary Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Summary Based on available data the classification criteria are not met.

Skin corrosion/irritation

Summary Based on available data the classification criteria are not met.

Serious eye damage/irritation

Summary Causes serious eye damage.

Respiratory sensitization

Summary Based on available data the classification criteria are not met.

Skin sensitization

Summary Based on available data the classification criteria are not met.

Germ cell mutagenicity

Summary Based on available data the classification criteria are not met.

Carcinogenicity

Summary Based on available data the classification criteria are not met.

IARC carcinogenicity

None of the ingredients are listed or exempt.

NTP carcinogenicity

Not listed.

OSHA Carcinogenicity

Not listed.

Reproductive toxicity

Summary Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

Summary May cause drowsiness or dizziness.

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Target organs Central nervous system

Specific target organ toxicity - repeated exposure

Summary Based on available data the classification criteria are not met.

Aspiration hazard

Summary Based on available data the classification criteria are not met.

12. Ecological information

Ecotoxicity Not regarded as dangerous for the environment.

Acute aquatic toxicity

Summary Based on available data the classification criteria are not met.

Chronic aquatic toxicity

Summary Based on available data the classification criteria are not met.

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Mobility in soil

Mobility No data available.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

14. Transport information

UN Number

UN No. (TDG) 1993

UN No. (IMDG) 1993

UN No. (IATA) 1993

UN No. (DOT) UN1993

TYZOR 223**UN proper shipping name**

Proper shipping name (TDG) FLAMMABLE LIQUIDS, N.O.S.(mixture contains, Propan-1-ol)

Proper shipping name (IMDG) FLAMMABLE LIQUIDS, N.O.S.(mixture contains, Propan-1-ol)

Proper shipping name (DOT) FLAMMABLE LIQUIDS, N.O.S.(mixture contains, Propan-1-ol)

Proper shipping name (IATA) FLAMMABLE LIQUIDS, N.O.S.(mixture contains, Propan-1-ol)

Transport hazard class(es)

DOT hazard class 3

DOT hazard label 3

TDG class 3

TDG label(s) 3

IMDG Class 3

DOT transport labels**Transport labels**

IATA class/division 3

Packing group

TDG Packing Group III

IMDG packing group III

DOT packing group III

IATA packing group III

Environmental hazards**Environmentally Hazardous Substance**

No.

Special precautions for user

EmS F-E, S-E

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

Regulatory References OSHA Hazard Communication Standard 29 CFR §1910.1200

Chemical safety assessment Chemical safety assessment has not been carried out.

US Federal Regulations

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SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

None of the ingredients are listed or exempt.

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories

Flammable (gases, aerosols, liquids or solids)
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List

None of the ingredients are listed or exempt.

Rhode Island "Right To Know" List

None of the ingredients are listed or exempt.

Minnesota "Right To Know" List

None of the ingredients are listed or exempt.

New Jersey "Right To Know" List

None of the ingredients are listed or exempt.

Pennsylvania "Right To Know" List

None of the ingredients are listed or exempt.

Inventories

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US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

Not listed.

16. Other information

Abbreviations and acronyms used in the safety data sheet	<p>TDG: The transport of dangerous goods act</p> <p>IATA: International air transport association. ICAO: Technical instructions for the safe transport of dangerous goods by air. IMDG: International maritime dangerous goods. CAS: Chemical abstracts service. ATE: Acute toxicity estimate. LC₅₀: Lethal concentration to 50 % of a test population. LD₅₀: Lethal dose to 50% of a test population (median lethal dose). EC₅₀: 50% of maximal effective concentration. PBT: Persistent, bioaccumulative and toxic substance. vPvB: Very persistent and very bioaccumulative.</p>
Classification abbreviations and acronyms	<p>Flam. Liq. = Flammable liquid Eye Dam. = Serious eye damage STOT SE = Specific target organ toxicity-single exposure</p>
Training advice	<p>Only trained personnel should use this material.</p>
Revision comments	<p>Version updated</p>
Revision date	<p>4/15/2021</p>
Revision	<p>1</p>
SDS No.	<p>7803</p>
Hazard statements in full	<p>H225 Highly flammable liquid and vapor. H226 Flammable liquid and vapor. H318 Causes serious eye damage. H336 May cause drowsiness or dizziness.</p>
File Name:	<p>TYZOR 223_SDS_US_en_APR-15-2021</p>
NFPA - health hazard	<p>1</p>
NFPA - flammability hazard	<p>3</p>
NFPA - instability hazard	<p>0</p>
ACA HMIS Health rating.	<p>1</p>
ACA HMIS Flammability rating.	<p>3</p>
ACA HMIS Physical hazard rating.	<p>0</p>

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