



## SAFETY DATA SHEET

## TYZOR 212

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

**1. Identification**Product identifier

Product name TYZOR 212

Recommended use of the chemical and restrictions on use

Application Catalyst. / Cross-linking agent. / Adhesion promoters

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 +91 022-27402879 & +91 02233286102.

**2. Hazard(s) identification**Classification of the substance or mixture

OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.

Physical hazards Flam. Liq. 2 - H225

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

Environmental hazards Not Classified

Label elements

## Hazard symbols



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapor.

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H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

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>
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 CAS number: 71-23-8	30-60%
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.
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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.
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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	May cause drowsiness or dizziness.
Eye 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 Do not use water jet as an extinguisher, as this will spread the fire. media

### 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.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### 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
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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.

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.

### 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.

#### Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

#### 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

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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. Shelf life two years from the date of manufacturing.

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

#### propan-1-ol (CAS: 71-23-8)

Ingredient comments      PEL, LTV 500 mg/m<sup>3</sup>, 200 ppm REL, STV 625 mg/m<sup>3</sup>, 250 ppm LTV 500 mg/m<sup>3</sup>, 200 ppm Skin TLV(USA), LTV 246 mg/m<sup>3</sup>, 100 ppm

### 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 fullface 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

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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	Faint yellow
Odor	Alcoholic.
Flash point	15° C (ASTM D 93)
Relative density	0.8389 g/cm <sup>3</sup> (7.001 lbs/gal) (ASTM D 1298) @ 25° C
Auto-ignition temperature	Product is not Self igniting.
Viscosity	5 cP, Dynamic @ 21.3° C
Other information	6.99 lb/gal(ASTM D 1298) @ Density, 25° C

### 10. Stability and reactivity

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	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### 11. Toxicological information

#### Information on toxicological effects Acute toxicity - oral

Summary	Based on available data the classification criteria are not met.
Notes (oral LD <sub>50</sub> )	LD <sub>50</sub> >5000 mg/kg, , Rat

#### Acute toxicity - dermal

Summary	Based on available data the classification criteria are not met.
Notes (dermal LD <sub>50</sub> )	LD <sub>50</sub> >5000 mg/kg, , Rabbit

#### Acute toxicity - inhalation

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

Notes (inhalation LC<sub>50</sub>) LC50 >20 mg/l, , Rat

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.

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. However, large or frequent spills may have hazardous effects on 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

The degradability of the product is not known.

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Persistence and  
degradabilityBioaccumulative 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.

## 14. Transport information

UN Number

UN No. (TDG) 1993

UN No. (IMDG) 1993

UN No. (ICAO) 1993

UN No. (IATA) 1993

UN No. (DOT) UN1993

UN proper shipping name

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

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

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

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

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

Transport hazard class(es)

DOT hazard class 3



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DOT hazard label 3

TDG class 3

TDG label(s) 3

IMDG Class 3

ICAO class/division 3

DOT transport labels



Transport labels

Packing group

TDG Packing Group II

IMDG packing group II

ICAO packing group II

DOT packing group II

IATA packing group II

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

US Federal Regulations

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.

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### 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.

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Inventories

US - TSCA

All the ingredients are listed or exempt.

## 16. Other information

Abbreviations and acronyms      TDG: The transport of dangerous goods  
act used in the safety data sheet

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.

LC<sub>50</sub>: Lethal concentration to 50 % of a test population.LD<sub>50</sub>: Lethal dose to 50% of a test population (median lethal dose).EC<sub>50</sub>: 50% of maximal effective concentration. PBT:

Persistent, bioaccumulative and toxic substance.

vPvB: Very persistent and very bioaccumulative.

Classification abbreviations  
and acronyms

Flam. Liq. = Flammable liquid

Eye Dam. = Serious eye damage

STOT SE = Specific target organ toxicity-single  
exposure

Training advice

Only trained personnel should use this material.

Revision date

8/16/2019

Revision

2

Supersedes date

8/16/2019

SDS No.

5792

Hazard statements in full

H225 Highly flammable liquid and vapor.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

NFPA - health hazard

Temporary incapacitation, injury. (2)

NFPA - flammability hazard

Ignites easily. (3)

NFPA - instability hazard

Normally stable. (0)

ACA HMIS Health rating.

Moderate hazard. (2)

ACA HMIS Flammability  
rating.

Ignites easily. (3)

ACA HMIS Physical hazard  
rating.

Normally stable. (0)

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.