

SAFETY DATA SHEET

Pyrazine, 2,3-dimethyl-

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

1. Identification		
Product identifier		
Product name	Pyrazine, 2,3-dimethyl-	
Product number	623	
Synonyms; trade names	2,3-Dimethylpyrazine	
CAS number	5910-89-4	
Recommended use of the chemical and restrictions on use		
Application	Laboratory chemicals, Manufacture of substances.	
Uses advised against	No specific uses advised against are identified.	
Details of the supplier of the safety data sheet		
Supplier	Synerzine 5340 Highway 42 Ellenwood, GA 30294 (404) 524-6744 info@synerzine.com	
Contact Person	James Elliott	
Emergency telephone number		
Emergency telephone	INFOTRAC 1-800-535-5053 (Reference Contract # 102471)	
2. Hazard(s) identification		
Classification of the substance or mixture		

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335
Environmental hazards	Not Classified

- Label elements
- Hazard symbols



Signal word

Hazard statements

(!)

Danger

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements	P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.
r recutionary claternome	P240 Ground/ bond container and receiving equipment.
	P241 Use explosion-proof electrical equipment.
	P242 Use only non-sparking tools.
	P243 Take precautionary measures against static discharge.
	P261 Avoid breathing vapor/ spray.
	P264 Wash contaminated skin thoroughly after handling.
	P270 Do not eat, drink or smoke when using this product.
	P271 Use only outdoors or in a well-ventilated area.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P301+P312 If swallowed: Call a poison center/ doctor if you feel unwell.
	P302+P352 If on skin: Wash with plenty of water.
	P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with
	water/ shower.
	P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
	P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if
	present and easy to do. Continue rinsing.
	P310 Immediately call a poison center/ doctor.
	P321 Specific treatment (see medical advice on this label).
	P330 Rinse mouth.
	P332+P313 If skin irritation occurs: Get medical advice/ attention.
	P362+P364 Take off contaminated clothing and wash it before reuse.
	P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
	P403+P235 Store in a well-ventilated place. Keep cool.
	P405 Store locked up.
	P501 Dispose of contents/ container in accordance with national regulations.

Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

3. Composition/information on ingredients	
Substances	
Product name	Pyrazine, 2,3-dimethyl-
CAS number	5910-89-4
Chemical formula	C6H8N2
4. First-aid measures	
Description of first aid measures	
General information	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove affected person from source of contamination. 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. 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. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin Contact	Rinse with water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.	
Most important symptoms and effe	ects, both acute and delayed	
General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.	
Inhalation	A single exposure may cause the following adverse effects: Irritation of nose, throat and airway. Difficulty in breathing. Coughing.	
Ingestion	May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.	
Skin contact	Redness. Irritating to skin.	
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.	
Indication of immediate medical attention and special treatment needed		
Notes for the doctor	Treat symptomatically.	
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 s	ubstance 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. This product is toxic.	
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Toxic 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 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 e	quipment and emergency procedures	

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. 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. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

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. Provide adequate ventilation. Approach the spillage from upwind. Small 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. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non- combustible material. Place waste in labeled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
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. In use may form flammable/explosive vapour-air mixture. Vapors may accumulate on the floor and in low-lying areas. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. 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. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.
Conditions for safe storage, includ	ling any incompatibilities
Storage precautions	Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Eliminate all sources of ignition. Take precautionary measures against static discharges. Ground container and transfer equipment to eliminate sparks from static electricity. 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. Utilize retaining walls to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.
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 pro	otection

Ingredient comments

No exposure limits known for ingredient(s).

Exposure controls

Protective equipment



Appropriate engineering controls	Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimize exposure. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilating equipment.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. 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	Clear liquid.
Color	Various colors.
Odor	Cocoa Coffee Green Nutty Roasted
Odor threshold	Not available.
рН	Not available.
Melting point	Not available.
Initial boiling point and range	156°C @ 1 bar

Summary

Pyrazine, 2,3-dimethyl-

Flash point	130°F Closed cup.
Evaporation rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapor pressure	Not available.
Vapor density	xxx.x - (Air - 1.0)
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
Molecular weight	xxx.xx g/mol
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. Do not pressurize, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.
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: Toxic gases or vapors.
11. Toxicological information	
Information on toxicological effects	3
Acute toxicity - oral	
Summary	Harmful if swallowed.
ATE oral (mg/kg)	500.0
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	Causes skin irritation.
Serious eye damage/irritation	

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.
Reproductive toxicity Summary	Based on available data the classification criteria are not met.
Specific target organ toxicity - sing	
Summary	May cause respiratory irritation.
Target organs	Respiratory system, lungs
Specific target organ toxicity - rep Summary	eated exposure Based on available data the classification criteria are not met.
Aspiration hazard Summary	Based on available data the classification criteria are not met.
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Irritation of nose, throat and airway. Difficulty in breathing. Coughing.
Ingestion	May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.
Skin Contact	Redness. Irritating to skin.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	Respiratory system, lungs
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	
Persistence and degradability	The degradability of the product is not known.
Bioaccumulative potential	
Bio-Accumulative Potential	No data available on bioaccumulation.
Partition coefficient	Not available.
Mobility in soil	
Mobility	No data available.

Other adverse effects

Other adverse effects

None known.

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. 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. 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. Vapor from residual product may create a highly flammable or explosive atmosphere inside the container. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not cut or weld used containers unless they have been thoroughly cleaned internally.
14. Transport information	
General	For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.
UN Number	
UN No. (TDG)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993
UN No. (DOT)	UN1993
UN proper shipping name	
Proper shipping name (TDG)	FLAMMABLE LIQUID, N.O.S. (Pyrazine, 2,3-dimethyl-)
Proper shipping name (IMDG)	FLAMMABLE LIQUID, N.O.S. (Pyrazine, 2,3-dimethyl-)
Proper shipping name (ICAO)	FLAMMABLE LIQUID, N.O.S. (Pyrazine, 2,3-dimethyl-)
Proper shipping name (DOT)	FLAMMABLE LIQUIDS, N.O.S. (Pyrazine, 2,3-dimethyl-)
Transport hazard class(es)	
DOT hazard class	3
DOT hazard label	3
TDG class	3
TDG label(s)	3
IMDG Class	3
ICAO class/division	3
Transport labels	



DOT transport labels



Packing group

TDG Packing Group	111
IMDG packing group	<i>III</i>
ICAO packing group	<i>III</i>
DOT packing group	<i>III</i>
Environmental hazards	

Environmentally Hazardous Substance *No.*

Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS

F-E, S-E

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

15. Regulatory information

Regulatory References

OSHA Hazard Communication Standard 29 CFR §1910.1200

Inventories

Canada - DSL/NDSL *DSL*

US - TSCA Present.

16. Other information

Classification abbreviations and acronyms	Flam. Liq. = Flammable liquid Acute Tox. = Acute toxicity Eye Dam. = Serious eye damage Skin Irrit. = Skin irritation STOT SE = Specific target organ toxicity-single exposure
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	12/14/2018
Revision	2
Supersedes date	5/15/2015
SDS No.	7
Hazard statements in full	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation.

End of Safety Data Sheet

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.