

1 Identification

Product identifier

Product name: 2,2-Dimethyl-1,3-dioxan-5-one

Stock number: L20177

CAS Number:

74181-34-3

Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

The substance is not classified as hazardous according to 29 CFR 1910 (OSHA GHS).

Hazards not otherwise classified No information known.

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

WHMIS classification Not controlled

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 1 Health (acute effects) = 1

FIRE 1 Flammability = 1

REACTIVITY 1 Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

74181-34-3 2,2-Dimethyl-1,3-dioxan-5-one

4 First-aid measures

Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow product to reach sewage system or any water course.

Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Prevention of secondary hazards: No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

Product name: 2,2-Dimethyl-1,3-dioxan-5-one																																																	
See Section 13 for disposal information.																																																	
(Contd. of page 1)																																																	
7 Handling and storage Handling Precautions for safe handling Handle under dry protective gas. Keep container tightly sealed. Information about protection against explosions and fires: No information known. Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: Store in freezer (-20 °C). Information about storage in one common storage facility: Store away from air. Protect from heat. Store away from water/moisture. Store away from oxidizing agents. Further information about storage conditions: Store under dry inert gas. This product is moisture sensitive. This product is air sensitive. Keep container tightly sealed. Protect from humidity and water. Specific end use(s) No further relevant information available.																																																	
8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Control parameters Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. Additional information: No data Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Use suitable respiratory protective device in case of insufficient ventilation. Protection of hands: Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Eye protection: Safety glasses Body protection: Protective work clothing.																																																	
9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: <table><tr><td>Form:</td><td>Liquid</td></tr><tr><td>Odor:</td><td>Not determined</td></tr><tr><td>Odor threshold:</td><td>Not determined.</td></tr></table> pH-value: Not determined. Change in condition <table><tr><td>Melting point/Melting range:</td><td>Not determined</td></tr><tr><td>Boiling point/Boiling range:</td><td>40-46 °C (104-115 °F) (14mm)</td></tr><tr><td>Sublimation temperature / start:</td><td>Not determined</td></tr><tr><td>Flammability (solid, gaseous)</td><td>Not determined.</td></tr><tr><td>Ignition temperature:</td><td>Not determined</td></tr><tr><td>Decomposition temperature:</td><td>Not determined</td></tr><tr><td>Auto igniting:</td><td>Not determined.</td></tr></table> Danger of explosion: Not determined. Explosion limits: <table><tr><td>Lower:</td><td>Not determined</td></tr><tr><td>Upper:</td><td>Not determined</td></tr><tr><td>Vapor pressure:</td><td>Not determined</td></tr><tr><td>Density:</td><td>Not determined</td></tr><tr><td>Relative density</td><td>Not determined.</td></tr><tr><td>Vapor density</td><td>Not determined.</td></tr><tr><td>Evaporation rate</td><td>Not determined.</td></tr><tr><td>Solubility in / Miscibility with</td><td></td></tr><tr><td>Water:</td><td>Fully miscible</td></tr><tr><td>Partition coefficient (n-octanol/water):</td><td>Not determined.</td></tr><tr><td>Viscosity:</td><td></td></tr><tr><td>dynamic:</td><td>Not determined.</td></tr><tr><td>kinematic:</td><td>Not determined.</td></tr><tr><td>Other information</td><td>No further relevant information available.</td></tr></table>		Form:	Liquid	Odor:	Not determined	Odor threshold:	Not determined.	Melting point/Melting range:	Not determined	Boiling point/Boiling range:	40-46 °C (104-115 °F) (14mm)	Sublimation temperature / start:	Not determined	Flammability (solid, gaseous)	Not determined.	Ignition temperature:	Not determined	Decomposition temperature:	Not determined	Auto igniting:	Not determined.	Lower:	Not determined	Upper:	Not determined	Vapor pressure:	Not determined	Density:	Not determined	Relative density	Not determined.	Vapor density	Not determined.	Evaporation rate	Not determined.	Solubility in / Miscibility with		Water:	Fully miscible	Partition coefficient (n-octanol/water):	Not determined.	Viscosity:		dynamic:	Not determined.	kinematic:	Not determined.	Other information	No further relevant information available.
Form:	Liquid																																																
Odor:	Not determined																																																
Odor threshold:	Not determined.																																																
Melting point/Melting range:	Not determined																																																
Boiling point/Boiling range:	40-46 °C (104-115 °F) (14mm)																																																
Sublimation temperature / start:	Not determined																																																
Flammability (solid, gaseous)	Not determined.																																																
Ignition temperature:	Not determined																																																
Decomposition temperature:	Not determined																																																
Auto igniting:	Not determined.																																																
Lower:	Not determined																																																
Upper:	Not determined																																																
Vapor pressure:	Not determined																																																
Density:	Not determined																																																
Relative density	Not determined.																																																
Vapor density	Not determined.																																																
Evaporation rate	Not determined.																																																
Solubility in / Miscibility with																																																	
Water:	Fully miscible																																																
Partition coefficient (n-octanol/water):	Not determined.																																																
Viscosity:																																																	
dynamic:	Not determined.																																																
kinematic:	Not determined.																																																
Other information	No further relevant information available.																																																
10 Stability and reactivity Reactivity No information known. Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions Reacts with strong oxidizing agents																																																	
(Contd. on page 3)																																																	

Product name: 2,2-Dimethyl-1,3-dioxan-5-one	
<div>Conditions to avoid No further relevant information available.</div> <div>Incompatible materials:<div>Air</div><div>Water/moisture</div><div>Oxidizing agents</div><div>Heat</div></div> <div>Hazardous decomposition products: Carbon monoxide and carbon dioxide</div>	
(Contd. of page 2)	
11 Toxicological information	
<div>Information on toxicological effects</div> <div>Acute toxicity: No effects known.</div> <div>LD/LC50 values that are relevant for classification: No data</div> <div>Skin irritation or corrosion: May cause irritation</div> <div>Eye irritation or corrosion: May cause irritation</div> <div>Sensitization: No sensitizing effects known.</div> <div>Germ cell mutagenicity: No effects known.</div> <div>Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.</div> <div>Reproductive toxicity: No effects known.</div> <div>Specific target organ system toxicity - repeated exposure: No effects known.</div> <div>Specific target organ system toxicity - single exposure: No effects known.</div> <div>Aspiration hazard: No effects known.</div> <div>Subacute to chronic toxicity: No effects known.</div> <div>Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.</div> <div>Carcinogenic categories</div> <div>OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.</div>	
12 Ecological information	
<div>Toxicity</div> <div>Aquatic toxicity: No further relevant information available.</div> <div>Persistence and degradability No further relevant information available.</div> <div>Bioaccumulative potential No further relevant information available.</div> <div>Mobility in soil No further relevant information available.</div> <div>Additional ecological information:</div> <div>General notes:</div> <div>Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.</div> <div>Avoid transfer into the environment.</div> <div>Results of PBT and vPvB assessment</div> <div>PBT: Not applicable.</div> <div>vPvB: Not applicable.</div> <div>Other adverse effects No further relevant information available.</div>	
13 Disposal considerations	
<div>Waste treatment methods</div> <div>Recommendation Consult state, local or national regulations to ensure proper disposal.</div> <div>Uncleaned packagings:</div> <div>Recommendation: Disposal must be made according to official regulations.</div> <div>Recommended cleansing agent: Water, if necessary with cleansing agents.</div>	
14 Transport information	
UN-Number	
DOT, ADN, IMDG, IATA	Not applicable
UN proper shipping name	
DOT, ADN, IMDG, IATA	Not applicable
Transport hazard class(es)	
DOT, ADR, ADN, IMDG, IATA	
Class	Not applicable
Packing group	
DOT, IMDG, IATA	Not applicable
Environmental hazards:	Not applicable.
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Marine Pollutant (DOT):	No
UN "Model Regulation":	-
15 Regulatory information	
<div>Safety, health and environmental regulations/legislation specific for the substance or mixture</div> <div>GHS label elements Not applicable</div> <div>Hazard pictograms Not applicable</div> <div>Signal word Not applicable</div> <div>Hazard statements Not applicable</div> <div>National regulations</div> <div>This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.</div> <div>This product is not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).</div> <div>SARA Section 313 (specific toxic chemical listings) Substance is not listed.</div> <div>California Proposition 65</div> <div>Prop 65 - Chemicals known to cause cancer Substance is not listed.</div> <div>Prop 65 - Developmental toxicity Substance is not listed.</div> <div>Prop 65 - Developmental toxicity, female Substance is not listed.</div> <div>Prop 65 - Developmental toxicity, male Substance is not listed.</div>	
(Contd. on page 4)	

Product name: 2,2-Dimethyl-1,3-dioxan-5-one

Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

(Contd. of page 3)

16 Other information
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing Department
Date of preparation / last revision 08/11/2016 / -
Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
DOT: US Department of Transportation
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)