

SAFETY DATA SHEET

Revision Date 12/20/2023

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name : ISO-CHEK Calibration Standards:
MAMA-HDI, MAMA-HMDI, MAMA-IPDI, MAMA-MDI, MAMA-2,4-TDI, and MAMA-2,6-TDI

Part No. : 225-9053, 225-9056, 225-9054, 225-9062, 225-9052, 225-9055

1.2 Recommended Use : Calibration Standards for ISO-CHEK Sampling System

1.3 Details of the supplier of the safety data sheet

Company : SKC, Inc.
863 Valley View Rd.
Eighty Four, PA 15330
USA

Telephone : 724-941-9701; 800-752-8472 (Mon - Fri, 8:30 a.m. - 5:00 p.m. EST)

Fax : 724-941-1369 (Mon - Fri, 8:30 a.m. - 5:00 p.m. EST)

1.4 Emergency telephone number

Emergency Phone # : CHEMTREC at 800-424-9300 (U.S./Canada); 703-741-5970 (Global)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS-US classification

Flammable liquids 3	H226
Acute toxicity, dermal 4	H312
Eye irritation 2A	H319
Acute toxicity, inhalation 4	H332
Reproductive toxicity 1B	H360
STOT RE 1	H372

Label elements

GHS-US labeling

Hazard pictograms



Signal Word

Danger

Hazard statements

H226 - Flammable liquid and vapor
H303 - May be harmful if swallowed
H312 - Harmful in contact with skin
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H360 - Reproductive toxicity
H372 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P284 - Wear respiratory protection
P302+P352 - If on skin: Wash with plenty of soap and water
P304+P340+P312 - If inhaled: remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

Other hazards

No additional information available

Unknown acute toxicity

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances**

Name	Product Identifier	%	GHS-US classification
MAMA-HDI, MAMA-HMDI, MAMA-IPDI, MAMA-MDI, MAMA-2,4-TDI, and MAMA-2,6-TDI	N/A	<1	No data available
Dimethylformamide	68-12-2	100	Flammable liquids 3, H226 Acute toxicity, oral 5 H303 Acute toxicity, dermal 4, H312 Acute toxicity, inhalation 4, H332 Serious eye damage/irritation 2A, H319 Reproductive toxicity 1B, H360

4. FIRST AID MEASURES**Description of first aid measures**

Inhalation	Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.
Eye	IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention
Skin	In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water. Take off contaminated clothes. If skin irritation occurs, get medical advice/attention.
Ingestion	If swallowed, wash out mouth with water provided person is conscious. Call a doctor/physician. Do not induce vomiting. If person is drowsy or unconscious and vomiting, place on the left side with head down.

Most important symptoms and effects, both acute and delayed

May be harmful by inhalation, ingestion or skin absorption
Causes eye and skin irritation
Material is irritating to mucous membranes and upper respiratory tract

Indication of any immediate medical attention and special treatment needed

If medical advice is needed, have product container or label at hand.

5. FIREFIGHTING MEASURES**Extinguishing media**

Water spray
Carbon dioxide, dry chemical powder or appropriate foam

Special Firefighting instructions

Firefighters should wear full protective gear. Do not enter fire area without proper protective equipment, including positive pressure self-contained breathing apparatus

Unusual Fire and Explosion Hazard

May form toxic fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Remove ignition sources. Avoid static electric charges. No naked lights.
Wear appropriate protective equipment including self-contained breathing apparatus, rubber gloves and rubber boots.

Emergency procedures

Evacuate unnecessary personnel.

Environmental precautions

Prevent entry to sewers and public waters.

Methods and material for containment and cleaning up

Absorb and/or contain spill with inert material, then place in a bag.
Dispose of waste safely
Avoid raising dust
Ventilate area and wash spill site after material pick-up is completed.

7. HANDLING AND STORAGE

Precautions for safe handling

Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Use spark-proof tools.
Keep away from heat/sparks/flames.

Conditions for safe storage

Store in a cool, dry and well ventilated area.
Light sensitive. Keep in amber containers.
Isolate from incompatible materials and conditions.
Keep containers closed and correctly labelled.
Keep away from sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Dimethylformamide	cas: 68-12-2	ACGIH TWA (ppm)	10 ppm	
		ACGIH STEL (ppm)	10 ppm	
		OSHA PEL	10 ppm	30 mg/m ³
		Quebec (VEMP)	10 ppm	30 mg/m ³
MAMA-HDI, MAMA-HMDI, MAMA-IPDI, MAMA-MDI, MAMA-2,4-TDI, and MAMA-2,6-TDI	N/A	ACGIH TWA (ppm)	No data available	
		ACGIH STEL (ppm)	No data available	
		OSHA PEL	No data available	

Exposure controls

Engineering Measures/controls	Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable exposure limit values.
Personal Equipment	
Hand protection	Wear chemically resistant protective gloves
Eye protection	Chemical goggles or safety glasses
Skin and body protection	Wear Protective clothing
Respiratory protection	In case of insufficient ventilation, use a NIOSH/MSHA approved respirator
Other information	Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Color	Colorless to light yellow
Odor	Unpleasant odor.
Odor threshold	0.47 ppm (low) 100 ppm (high)
pH	6.7 (4.0%)
Relative evaporation rate (butylacetate=1)	0.17
Relative evaporation rate (ether=1)	60
Melting point	-61°C
Freezing point	No data available
Boiling point	153°C
Flash point	58°C
Critical temperature	370°C
Self ignition temperature	440°C
Decomposition temperature	350°C
Flammability (solid, gas)	No data available
Vapor pressure	3.8 hPa
Vapor pressure at 50°C	25 hPa
Relative vapor density at 20°C	2.5
Relative density	0.95
Density	950 kg/m ³
Solubility	Soluble in water, ethanol, ether, acetone, aromatic hydrocarbons, chloroform, tetrachloromethane, dimethylsulfoxide.
Viscosity, kinematic	No data available
Viscosity, dynamic	0.0008 Pa.s (25°C)

10. STABILITY AND REACTIVITY

Stability	Stable under recommended handling and storage conditions. (see section 7)
Chemical incompatibility	Strong oxidizing agents
Hazardous decomposition products	Toxic fumes of Carbon Monoxide, Carbon Dioxide and Nitrogen Oxides

11. TOXICOLOGICAL INFORMATION

Dimethylformamide	cas: 68-12-2
LD50 oral rat	>2000 mg/kg
LD50 dermal rat	1100 mg/kg
LC50 inhalation rat	5,9 mg/l/4h
LC50 inhalation rat	1948 ppm/4h

Routes of entry	Inhalation, contact, ingestion
Target Organs	Eyes, skin, respiratory tract

Potential Health Effects

Inhalation

Acute (Immediate)

Exposure to high concentrations: Coughing, nausea, vomiting, abdominal pain, dizziness, excited/restless, high arterial pressure, feeling of weakness.

	Chronic (Delayed)	Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled
Skin	Acute (Immediate)	Slight irritation.
	Chronic (Delayed)	Repeated exposure can result in absorption through skin causing significant health hazard. Tingling/irritation of the skin. Skin rash/inflammation. Harmful in contact with skin
Eye	Acute (Immediate)	Irritation of the eye tissue. Conjunctivitis. Inflammation or damage of the eye tissue.
	Chronic (Delayed)	No data available
Ingestion	Acute (Immediate)	No data available
	Chronic (Delayed)	No data available
Chronic symptoms	Continuous/repeated	Headache. Gastrointestinal complaints. Loss of appetite. Risk of testicular tumors. Possible premature birth. Cardiac and blood circulation effects. Promotes the clotting of blood.

Component Toxicological Data

chemical name	cas number	source	information	
Dimethylformamide	68-12-2	IARC	group 3	Not classifiable as to its carcinogenicity to humans
		ACGIH		Not classifiable as human carcinogen

12. ECOLOGICAL INFORMATION

Dimethylformamide cas: 68-12-2

Toxicity

LC50 fish 1	9800mg/l 96h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	1300 mg/l 48h; Daphnia magna
LC50 fish 2	6300 mg/l 96h; Lepomis macrochirus
TLM fish 1	10.2 ppm 96h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	10 mg/l; Scenedesmus quadricauda
Threshold limit algae 2	0.5 mg/l; Selenastrum capricornutum

Persistence and degradability Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air. Not established.

Bioaccumulative potential Not established

Mobility in soil Not established

Other adverse effects Avoid release to the environment

13. DISPOSAL CONSIDERATIONS

Waste disposal recommendations Dispose in a safe manner in accordance with local and national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Remove to an authorized waste incinerator for solvents.

Waste disposal of packaging Dispose of contents/container to local, federal regulations.

Ecology waste materials Avoid release to the environment

14. TRANSPORT INFORMATION

In accordance with DOT
Shipping name Dimethylformamide
State during transport liquid
UN number UN2265
Hazard class 3 - Flammable liquid
Packing group III
Danger label 3 - Flammable liquids



15. REGULATORY INFORMATION

US Federal regulations

Dimethylformamide cas: 68-12-2

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on SARA Section 313 (Specific Toxic Chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists)

Canada: WHMIS (Workplace Hazardous Materials Information System)

Canada: CEPA (Priority Substances List)

100 lb

B3, D2A, D2B

Listed

16. OTHER INFORMATION

Disclaimer

For approved uses only. Not for drug, household, or other uses.

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SKC Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Latest Change(s): Updated SDS to bring into compliance with the GHS

Last Update: December 2023