



COLUMBUS CHEMICAL INDUSTRIES INC.

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MATERIAL SAFETY DATA SHEET
FOR INDUSTRIAL USE ONLY

COLUMBUS CHEMICAL INDUSTRIES
ATTN:
N-4335 TEMKIN ROAD
COLUMBUS, WI 53925

NON-EMERGENCY TELEPHONE
414-623-2140

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CUR ISS 19-APR-91

DESCRIPTION: FORMALDEHYDE 37% M11Z
PRODUCT TYPE: FORMALDEHYDE SOLUTION
APPLICATION: GENERAL PURPOSE

SIGNAL WORD
WARNING!

This material is a 'health hazard' and/or a 'physical hazard' as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 'Hazard Communication' Standard.

CHEMICAL HAZARD RATING
HEALTH=3(high)
FIRE=2(moderate)
REACTIVITY=1(slight)
CHRONIC=*

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29CFR1910.1200 HAZARDOUS INGREDIENTS/REPORTED HEALTH EFFECTS % RANGE
CAS/REGISTRY NO. MATERIAL DESCRIPTION

The ingredients listed below have been associated with one or more of the listed immediate and/or delayed(*) health hazards. Risk of damage and effects depends upon duration and level of exposure. BEFORE USING OR HANDLING, READ AND UNDERSTAND THE MSDS.

50-00-0 *FORMALDEHYDE 30-50

POTENTIAL CANCER HAZARD.
Rats chronically exposed to 14 ppm formaldehyde contracted nasal cancers. Based on animal data and limited epidemiological evidence, NTP, IARC and OSHA have listed formaldehyde as a probable human carcinogen.

May cause allergic skin reaction.
Some reports suggest that formaldehyde may cause asthma and that pre-existing respiratory and skin disorders may be aggravated by exposure.

OSHA has identified 0.5 ppm as the 'Action Level',

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PACKAGERS/PROCESSORS OF REAGENT CHEMICALS
ACIDS SOLVENTS INORGANIC SALTS PREPARED SOLUTIONS

DESCRIPTION: FORMALDEHYDE 37% MIX
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29CFR1910.1200 HAZARDOUS INGREDIENTS/REPORTED HEALTH EFFECTS
CAS/REGISTRY NO. MATERIAL DESCRIPTION % RANGE

29CFR 1910.1048. Please refer to the OSHA Standard for
guidance applicable to your specific operations.

OSHA has stated that a concentration of 100 ppm is
immediately dangerous to life and health and that the
odor threshold for formaldehyde is 0.8-1 ppm; OSHA
Occupational Exposure to Formaldehyde, 52 Fed. Reg.
46168; et seq.

ACGIH TLV: 1 PPM (1.2 MG/M3) TWA; 2 PPM (2.5 MG/M3) 15MIN STEL
OSHA PEL: 1 PPM (1.2 MG/M3) TWA; 2 PPM (2.5 MG/M3) 15MIN STEL
NIOSH DOCUMENT NUMBER: 77-126
OTHER: OSHA PEL: 29CFR1910.1048

67-56-1 *METHANOL
NOTE REVISED OSHA PEL

10-30

Possible reproductive disorders from prolonged
exposure.

May cause blindness if swallowed.

Can cause central nervous system depression. Signs
and symptoms may include headache, dizziness, nausea,
vomiting and drowsiness.

-- See Footnote C.

ACGIH TLV: SKIN- 200PPM(262 MG/M3)TWA; 250PPM(328 MG/M3) STEL
OSHA PEL: 200 PPM (260 MG/M3) TWA; 250 PPM (310 MG/M3) STEL
NIOSH DOCUMENT NUMBER: 76-148

Footnote C: As of the date of issuance of this
document, this material has not been listed by NTP,
IARC or OSHA as a carcinogen.

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PHYSICAL DATA

FORM ASSAY, SULFITE	~37.0%
METH IN FORMAL BY FYCNO	~11.0%
STG. LIFE	30 DAYS @ 60F
APPEARANCE	CLEAR LIQUID
COLOR	COLORLESS
ODOR	PUNGENT
DOT 49CFR-173.115 COMBUSTIBLE LQD	RQ FORMALDEHYDE/METHANOL
BOILING POINT	~100C
EVAPORATION RATE	SIMILAR TO WATER
FLASH POINT	~130F (54C)
FREEZING POINT	SEE STORAGE SECTION
AUTOIGNITION TEMPERATURE	~420C
LOWER EXPLOSION LIMIT	~7%
SOLUBILITY IN WATER	INFINITE

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DESCRIPTION: FORMALDEHYDE 3/4 MILZ
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PHYSICAL DATA

SPECIFIC GRAVITY ~1.08
UPPER EXPLOSION LIMIT ~70%
VAPOR DENSITY ~1 (AIR=1)
VAPOR PRESSURE ~40MM HG @ 39C

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IMMEDIATE HEALTH HAZARD DATA

SKIN ABSORPTION: May be harmful if absorbed through skin.

INGESTION: Not expected to be harmful under normal conditions of use.

If accidentally swallowed, burns or irritation to mucous membranes, esophagus or GI tract can result.

INHALATION: May be harmful if inhaled. Liquid or vapor may cause irritation of nose, throat and lungs. Can cause central nervous system depression.

SKIN: Causes irritation.

EYES: Causes burns.

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HANDLING PRECAUTIONS

SKIN ABSORPTION: Avoid contact with eyes, skin or clothing.

INHALATION: Avoid breathing vapor.

Use with adequate ventilation.

SKIN: Avoid contact with skin.

EYES: Do not get in eyes.

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing.

Wash thoroughly after handling.

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EMERGENCY AND FIRST AID PROCEDURES

SKIN ABSORPTION: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse.

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Call a physician.

SKIN CONTACT: Flush skin with plenty of water. Remove contaminated clothing. Call a physician if irritation persists.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held

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EMERGENCY AND FIRST AID PROCEDURES

apart during irrigation to insure water contact with entire surface of eyes and lids. Call a physician.

FIRE AND EXPLOSION HAZARD DATA

COMBUSTIBLE.

Keep away from heat and flame.

In case of fire, use water spray, dry chemical, 'alcohol' foam or CO2. Use water to keep fire-exposed containers cool.

REACTIVITY DATA

Normally stable, but may become unstable at high temperatures.

Hazardous polymerization:

Will not occur.

Incompatibilities:

Reacts with many compounds. Reaction with phenol, strong acids or alkalis may be violent. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen.

Decomposition products may include:

CO, CO2.

CONTROL MEASURES

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

ENGINEERING CONTROLS: The following exposure control techniques may be used to effectively minimize employee exposure: local exhaust ventilation, enclosed system design, process isolation and remote control in combination with appropriate use of personal protective equipment and prudent work practices. These techniques may not necessarily address all issues pertaining to your operations. We, therefore, recommend that you consult with experts of your choice to determine whether or not your programs are adequate.

PERSONAL PROTECTION INFORMATION

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved full facepiece respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA 29CFR 1910.1048(g) Respiratory Protection, OSHA 29CFR 1910.134 or other applicable standards or guidelines.

APPLICATION: GENERAL PURPOSE

PERSONAL PROTECTION INFORMATION

Wear chemical splash goggles or some other type of complete protection for the eye if contact is likely. Wear protective (impervious) gloves as required to prevent skin contact.

Where high concentrations of hazardous ingredients may be present, such as in an emergency, full body protection should be worn.

Other protective equipment: Eye wash fountain, safety shower. Reusable protective clothing should be cleaned and ventilated after any formaldehyde contamination.

See OSHA 29CFR 1910.1048(h) Protective Equipment and Clothing and OSHA 29CFR 1910.1048(i) Hygiene Protection for other specific requirements based on the form of formaldehyde, the conditions of use and the hazards to be prevented.

SPILL OR LEAK PROCEDURES

Eliminate all ignition sources.

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult manufacturer.

Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

WASTE DISPOSAL

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

Empty container: May contain explosive vapors. DO NOT cut, puncture or weld on or nearby.

STORAGE PRECAUTIONS

NOTES

Storage temperature depends on methanol content and should be controlled to avoid precipitation or vaporization. See technical bulletin for recommended storage temperatures. Remove plus slowly to relieve pressure.

Formaldehyde solutions will start to precipitate paraformaldehyde if stored below their recommended storage temperatures making the freezing point difficult to determine.

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DOT CLASSIFICATION

FORMALDEHYDE SOLUTION, COMBUSTIBLE LIQUID,
UN 1190, RQ FORMALDEHYDE/METHANOL,
METHAFORM.

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PRINT DATE: 02-OCT-91

PREVIOUS ISSUE: 20-OCT-90

CURRENT ISSUE: 19-APR-91

11:00 AM

While Columbus Chemical Industries, Inc. believes that the data contained herein are factual, they are not to be taken as a warranty or representation for which Columbus Chemical Industries, Inc. assumes legal responsibility. They are offered solely for your consideration, investigation. Any use of these data and information must be determined by the user to be in accordance with the applicable Federal, State, and Local laws and regulations.

SARA TITLE III SECTION 313
AND 40 CFR Part 372
TOXIC CHEMICAL NOTIFICATION SHEET

FORMALDEHYDE 37% M11%

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

CAS Registry Number	Chemical Name	Pct. By Weight
50-00-0	FORMALDEHYDE	37.00
67-56-1	METHANOL	11.00

This Toxic Chemical Notification Sheet must not be detached from the Material Safety Data Sheet (MSDS). Any copying and redistribution of the MSDS shall include copying and redistribution of this notification sheet attached to copies of the MSDS subsequently redistributed.

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PRINT DATE: 02-OCT-91 11:00 AM