

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

SECTION 1. IDENTIFICATION

Product name : Boron Trifluoride Methanol Complex

Number : 000000011325

Product Use Description : Catalyst, Chemical derivatives

Manufacturer or supplier's details : Honeywell International Inc.
115 Tabor Road
Morris Plains, NJ 07950-2546

For more information call : 800-522-8001
+1-973-455-6300(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701 or +1-303-389-1414
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid

Color : colourless to yellowish

Odor : strong pungent

Classification of the substance or mixture

Classification of the substance or mixture : Flammable liquids, Category 4
Acute toxicity, Category 3, Oral
Skin corrosion, Category 1A
Serious eye damage, Category 1
Specific target organ toxicity - single exposure, Category 1, Eyes, Nervous system
Specific target organ toxicity - single exposure, Category 3, Respiratory system
Specific target organ toxicity - repeated exposure, Category 2, Kidney

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

GHS Label elements, including precautionary statements

Symbol(s)

:



Signal word

: Danger

Hazard statements

: Combustible liquid.
Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
Causes damage to organs.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

: **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing.
Wear eye protection/ face protection.
Wear respiratory protection.

Response:
IF SWALLOWED: Immediately call a POISON CENTER/doctor.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Wash contaminated clothing before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Keep cool.
Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : CH₄BF₃O

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Trifluoro(methanol)boron	373-57-9	100.00 %

Note : For this complex, the equivalent weight percent ratio is approximately 32% Methanol and 68% Boron Trifluoride (BF₃).

SECTION 4. FIRST AID MEASURES

Inhalation : Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before re-use. Discard contaminated shoes. Call a physician immediately.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.

00000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Ingestion : Unlikely route of exposure. If ingested, give water to dilute stomach contents. Never give anything by mouth to an unconscious person. Call a physician immediately.

Notes to physician

Indication of immediate medical attention and special treatment needed, if necessary : Treat as a corrosive acid. Boron Trifluoride breaks down into Boric and Fluoroboric acid (strong corrosive acids). May form fluoride ions under extreme conditions. Consider treatment for fluoride toxicity, hypocalcemia, and hypomagnesemia if exposure is severe.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)
Dry chemical
Cool closed containers exposed to fire with water spray.

Unsuitable extinguishing media : Avoid direct water stream and foams containing water.

Specific hazards during firefighting : Reaction with limited water forms BF3 hydrates, liberating free methanol which is extremely flammable and has hazardous storage properties. Excess water produces corrosive acids.

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment.
Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Ensure adequate ventilation.
Remove all sources of ignition.
Do not swallow.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Prevent product from entering drains.
Do not allow run-off from fire fighting to enter drains or water courses.

Methods and materials for containment and cleaning up : Ventilate the area.
No sparking tools should be used.
Use explosion-proof equipment.
For small spills, absorb on dry neutral or alkaline carrier (e.g. sand, soda ash). Collect and place in an approved chemical waste container. Close container and label Corrosive, Toxic.
Dispose of container in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE**Handling**

Precautions for safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Do not swallow.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.

Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.
Take precautionary measures against static discharges.
Ensure all equipment is electrically grounded before beginning transfer operations.
Use explosion-proof equipment.
Keep product and empty container away from heat and sources of ignition.
No sparking tools should be used.
No smoking.

Storage

Conditions for safe storage, including any incompatibilities : Store in area designed for storage of flammable liquids.
Protect from physical damage.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep away from heat and sources of ignition.
Keep away from direct sunlight.

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Store away from incompatible substances.
 Container hazardous when empty.
 Do not pressurize, cut, weld, braze, solder, drill, grind or
 expose containers to heat or sources of ignition.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
- Engineering measures : Use with local exhaust ventilation.
Prevent vapour buildup by providing adequate ventilation during and after use.
- Eye protection : Do not wear contact lenses.
Wear as appropriate:
Safety glasses with side-shields
If splashes are likely to occur, wear:
Goggles or face shield, giving complete protection to eyes
- Hand protection : Neoprene gloves
PVC disposable gloves
Gloves must be inspected prior to use.
Replace when worn.
- Skin and body protection : Full protective suit
- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
For visible releases of BF₃, wear NIOSH approved full-face supplied air or self-contained breathing apparatus (SCBA).
Use NIOSH approved respiratory protection.
- Hygiene measures : When using, do not eat, drink or smoke.
Wash thoroughly after handling.
Keep working clothes separately.
Remove and wash contaminated clothing before re-use.
Do not swallow.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis

SAFETY DATA SHEET

Honeywell

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Boron trifluoride	7637-07-2	Ceil_Tim e : Ceiling Limit Value and Time Period (if specified) :	3 mg/m3 (1 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Boron trifluoride	7637-07-2	Ceiling : Ceiling Limit Value:	3 mg/m3 (1 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Boron trifluoride	7637-07-2	Ceiling : Ceiling Limit Value:	3 mg/m3 (1 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Boron trifluoride	7637-07-2	TWA : Time weighted average	2.5 mg/m3	02 2006	OSHA/Z2:US. OSHA Table Z-2 (29 CFR 1910.1000)
Further information	:	Form of exposure : Dust.			
Boron trifluoride	7637-07-2	Ceiling : Ceiling Limit Value:	(0.7 ppm)	03 2016	ACGIH:US. ACGIH Threshold Limit Values
Boron trifluoride	7637-07-2	TWA : Time weighted average	(0.1 ppm)	03 2016	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	SKIN_DE S : Skin designati on:	Can be absorbed through the skin.	2008	ACGIH:US. ACGIH Threshold Limit Values

SAFETY DATA SHEET

Honeywell

00000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Methanol	67-56-1	STEL : Short term exposure limit	(250 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	TWA : Time weighted average	(200 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	SKIN_DE S : Skin designati on:	Can be absorbed through the skin.	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	REL : Recomm ended exposure limit (REL):	260 mg/m3 (200 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	PEL : Permissi ble exposure limit	260 mg/m3 (200 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Methanol	67-56-1	SKIN_FI NAL : Skin designati on (Final Rule Limit applies):	Can be absorbed through the skin.	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Methanol	67-56-1	TWA : Time weighted average	260 mg/m3 (200 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: colourless to yellowish
Odor	: strong pungent
pH	: Note: Not applicable
Melting point/range	: Note: not determined
Boiling point/boiling range	: Note: not determined
Flash point	: 154.0 °F (67.8 °C) Method: closed cup
Lower explosion limit	: Note: not determined
Upper explosion limit	: Note: not determined
Vapor pressure	: Note: not determined
Vapor density	: Note: not determined
Density	: 1.4 g/cm ³ at 20 °C

00000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Water solubility : Note: Decomposes in contact with water.

Ignition temperature : Note: Not applicable

Molecular weight : 99.8 g/mol

SECTION 10. STABILITY AND REACTIVITY

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Heat, flames and sparks.
Keep away from direct sunlight.
Protect against water.
Protect from moisture.

Incompatible materials : Polymerizable materials, water, alkali metals, alkaline earth metals except magnesium, alkyl nitrates.

Hazardous decomposition products : Reaction with limited water forms BF₃ hydrates, liberating free methanol which is extremely flammable and has hazardous storage properties. Excess water produces corrosive acids.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: 300 - 600 mg/kg
Species: Rat

Skin irritation : Species: Rabbit

00000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Result: Corrosive after 3 minutes or less of exposure
 Classification: Causes severe burns.

Further information : Note: Irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION**Further information on ecology**

Additional ecological information : We have no quantitative data concerning the ecological effects of this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID No.	: UN 2922
Proper shipping name	: CORROSIVE LIQUID, TOXIC, N.O.S. (Boron trifluoride methanol complex)
Class	: 8
Packing group	: I
Hazard Labels	: 8 (6.1)

IATA

UN/ID No.	: UN 2922
Description of the goods	: CORROSIVE LIQUID, TOXIC, N.O.S. (Boron trifluoride methanol complex)
Class	: 8
Packaging group	: I
Hazard Labels	: 8 (6.1)
Packing instruction (cargo aircraft)	: 854
Packing instruction (passenger aircraft)	: 850

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

IMDG	UN/ID No.	: UN 2922
	Description of the goods	: CORROSIVE LIQUID, TOXIC, N.O.S. (BORON TRIFLUORIDE METHANOL COMPLEX)
	Class	: 8
	Packaging group	: I
	Hazard Labels	: 8 (6.1)
	EmS Number	: F-A, S-B
	Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances Control Act	: On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	: Not in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	: This product contains one or several components listed in the Canadian DSL/ NDSL list.
Japan. Kashin-Hou Law List	: On the inventory, or in compliance with the inventory
Korea. Existing Chemicals Inventory (KECI)	: On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	: On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	: Not in compliance with the inventory
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	: On the inventory, or in compliance with the inventory

National regulatory information

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

- SARA 302 Components** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313 Components** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
- SARA 311/312 Hazards** : Fire Hazard
Acute Health Hazard
Chronic Health Hazard
- California Prop. 65** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

- WHMIS Classification** : E: Corrosive Material
D1B: Toxic Material Causing Immediate and Serious Toxic Effects
B3: Combustible Liquid
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 3*	3
Flammability	: 2	2
Physical Hazard	: 0	
Instability	:	0

* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

000000011325

Version 1.5

Revision Date 03/22/2019

Print Date 11/01/2023

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Previous Issue Date: 05/04/2016

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group