



**HAZARDOUS MATERIALS
IN DYNAMICS 365 F&O:
A STANDARD
FOUNDATION THAT IS
OFTEN UNDERESTIMATED**

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Introduction

When product compliance capabilities in Dynamics 365 Finance & Operations come up, the discussion usually turns to quality, traceability, product information, or safety data sheets. The “Hazardous materials” module, referred to by that name throughout this article, nevertheless remains relatively unknown, including among consultants who specialize in supply chain.

Contrary to a common belief, hazardous materials are not a concern for the chemical industry alone. They are present across a wide range of industrial, commercial, and logistics activities, and many companies therefore have to ship products that are subject to regulations such as ADR for road, IMDG for sea, or IATA for air transportation.

As part of recent work on this subject, I wanted to explore the functionality in detail: standard pages, data tables, import and export entities, SSRS reports, calculation logic, and integration with warehouse management.

My main conclusion is the following: the Hazardous materials module is not a turnkey regulatory solution, but a standard application framework that is far richer and more structured than is often assumed.

This article offers a field perspective on its scope, its architecture, and its main capabilities in Dynamics 365 Supply Chain Management.

1. What is the scope of the Hazardous materials module?

The name of the feature might suggest a complete solution covering regulatory, environmental, EHS, and REACH aspects, or safety data sheets. The Microsoft standard actually takes a more targeted approach.

The functionality was designed primarily to store the information related to the transportation of hazardous materials and to feed the documents required for shipping them. Microsoft cites the following regulations in particular:

- ADR for road transportation;
- IMDG for sea transportation;
- IATA for air transportation;
- CFR 49 for the transportation of hazardous materials in the United States.

For each product, the module can hold the data required for its identification and its classification: UN number, proper shipping name, hazard class, packing group, transport category, tunnel restriction, air or sea information, emergency response codes, and limited quantities.

Finance and Operations Search for a page USMF | Contoso Entertainment System USA

Product Purchase Sell **Manage inventory** Engineer Plan Manage projects Manage costs

Order settings Warehouse Quality Packaging Batch attributes Compliance
 default order settings Warehouse items Physical dimensions Non conformances Bulk item conversion Batch attributes selection Customer specific Regulated products Reporting details
 Bar codes Physical product dimensions Item quality groups Consolidated on-hand Product specific Search inventory Safety data sheet **Item hazardous material**
 GTIN codes Restricted products

	Item number	Product name	Search name	Product...	Product s...	Product service type	Item model gr...	Item group	Unit	Vendor	Product lif :
	M9211	Wiring harness	WiringWMSNOBA-HM	Item	Product	Not specified	FIFO	Audio	ea	US-101	
	000126	SODIUM CYANIDE 25KG BAG	HM SODIUMCYANIDE	Item	Product	Not specified	STKWAFEFO	Audio	ea	US-101	Operational
	000101	SILVER (I) POTASSIUM CYANIDE 25KG BAG	HM POTASSIUM CYANI...	Item	Product	Not specified	STKWAFEFO	Audio	ea	US-101	Operational
☒	000076	CAUSTIC SODA 25% (1LTR)	HM CAUSTIC SODA	Item	Product	Not specified	STKWAFEFO	PCS	ea	US-101	Operational
	000127	AERODUR 5000 TOPCOAT 043546 GREY	HM AERODUR5000	Item	Product	Not specified	STKWAFEFO	Audio	ea	US-101	Operational

000076

ADR

000076

IATA

000076

IMDG

000076 : HM CAUSTIC SODA

Standard view

Item hazardous materials

Item number

Regulation code

Material code

Group code

Record-ID

000076

ADR

5637145326

Item ship text translation

Translations

Delete

	Language	Shipping print text
☒	en-us	UN1824 SODIUM HYDROXIDE IN SOLUTION
☐	fr	UN1824 HYDROXYDE DE SODIUM EN SOLUTION

Material management

CLASS INFORMATION

Class

Class 8

Description

Corrosive substances

Division

8

IDENTIFICATION

PACKING GROUP

Packing group

II

Description

Medium danger

Packing description

PLBTL1L

HAZARDOUS MATERIAL LABEL

Hazardous material label

8

Flash point

QUANTITY

Limited quantity

☒ Yes

Quantity

1.00

Multiplier

3.00

Unit

l

RADIOACTIVE

Radioactive

This information can then be used during outbound flows to prepare road, air, or multimodal declarations and their summary documents.

The module is not intended, however, to replace specialized software or to automatically guarantee compliance with every applicable regulation. Microsoft presents it as a supporting tool, with responsibility for compliance remaining with the organization.

2. Functional depth that is often underestimated

The standard provides many reference tables to be populated in order to manage regulations, hazard classes and divisions, packing groups, transport categories, emergency response codes, tunnel restrictions, aircraft types, and marine stowage information.

At the product level, the “Hazardous material item” page is used to record the data specific to each regulation and each mode of transportation.

One product, several regulations

Take the example of a caustic soda solution. The same product can be transported by road under ADR, in a sea container under IMDG or, where this is permitted, by air under IATA. D365 F&O makes it possible to store this information without creating several products or several data models.

Translations	Delete
☐	☐
Language	Shipping print text
☒	en-us
	fr

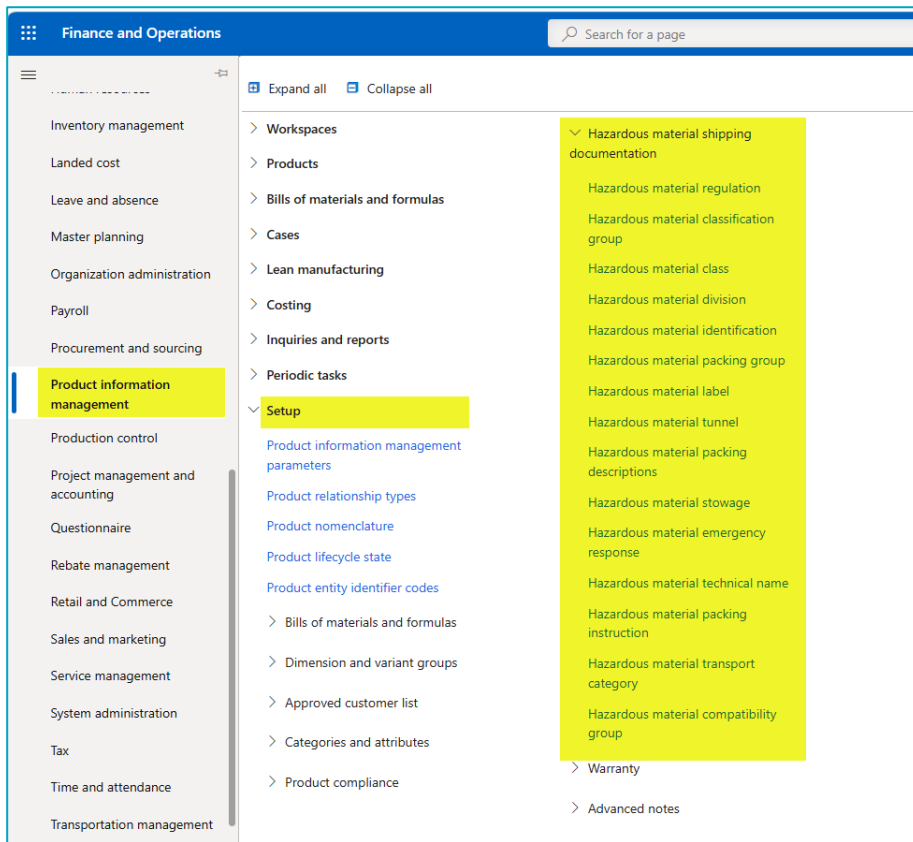
Even without producing a declaration, the information remains usable in the “Hazardous materials” and “Hazardous material stock limits” pages, through the standard sorting, filtering, and export functions.

3. A smart but low-visibility architecture

Shared reference data

Most of the setup tables are shared across legal entities. This design promotes consistency of reference data at group level, limits duplicate entry, and makes maintenance easier.

Some of these reference tables (classes, divisions, packing groups, and others) even have to serve several regulations at once. That simplicity does, however, call for coding conventions in order to avoid any ambiguity between ADR, IMDG, IATA, and CFR 49 values.



The central role of modes of delivery

Each regulation must be associated with one or more modes of delivery. When documents are generated, the system relies on the mode of delivery defined for the shipment in order to identify the regulation and the shipping text to be used. This logic makes it possible to select the relevant data according to the transportation scenario of a sales order or an outbound transfer order.

In warehouse management flows, the mode of delivery is linked to the carrier and to its service. One important exception exists: the multimodal declaration uses the regulation code defined in the warehouse management parameters rather than the mode of delivery of the shipment.



Strong integration with warehouse management

A large share of the module's added value lies in preparing hazardous materials declarations and in enriching logistics documents such as the bill of lading or the packing list. This part can be used only when outbound logistics flows are configured with warehouse management (WMS).

The screenshot displays the Dynamics 365 Finance and Operations interface. The top navigation bar shows 'Finance and Operations' and a search bar. The left sidebar contains navigation icons. The main content area is titled 'Shipments' and includes a 'Transportation' tab. Below the tab, there are sections for 'Related information' and 'Hazardous material document'. The 'Related information' section includes links for 'Multimodal dangerous goods', 'Carriage of Merchandise by Road', 'Shipper's declaration', and 'Bill of lading'. The 'Hazardous material document' section includes links for 'Verified gross mass', 'Carriage of Merchandise by Road', 'Multimodal dangerous goods', 'Shipment summary', and 'Shipper's declaration'. Below these sections is a table of shipments with columns for Shipment ID, Shipment status, Wave ID, Load ID, Direction, Shipment lines, Containers, Bill of lading ID, and Pro num. The table lists several shipments, with USMF-000084 highlighted. Below the table is a 'Load details' section with a table showing Order number, Shipment ID, Item number, Quantity, Unit, Hazardous mat..., and Limited quanti....

Shipment ID	Shipment status	Wave ID	Load ID	Direction	Shipment lines	Containers	Bill of lading ID	Pro num
USMF-000033	In process		USMF-000035	Inbound	2	0		
USMF-000034	Waved	USMF-000000039	USMF-000036	Outbound	2	0		
USMF-000084	Loaded	USMF-000000090	USMF-000086	Outbound	2	5		
USMF-000086	Waved	USMF-000000092	USMF-000088	Outbound	2	0		
USMF-000087	Open		USMF-000089	Outbound	1	0		
USMF-000105	In process	USMF-000000111	USMF-000107	Outbound	1	0		

Order number	Shipment ID	Item number	Quantity	Unit	Hazardous mat...	Limited quanti...
001035	USMF-000084	000126	4.00	ea	5,000.00	0.00
001035	USMF-000084	000076	128.00	ea	384.00	161.28

4. Standard regulatory documents

The system offers three main documents:

- "Transportation of goods by road", for road transportation, notably ADR;
- "Shipper's declaration", suited in particular to air transportation;
- "Multimodal dangerous goods form", for multimodal or sea transportation.

Example of a multimodal dangerous goods form:

Multimodal Dangerous Goods document					Page 1 of 1 9/4/2026 11:57 AM		
Shipper / Consigner / Sender Warehouse Address 321 North Steet, Gate 3 Tacoma WA 98401				Transport document number USMF-000023			
Ultimate Consignee Contoso Retail San Diego 456 Peach Road San Diego CA 92114				Shipper's Reference USMF-000084			
This shipment is within the limitation prescribed for:				Forwarder		Freight forwarder's reference	
Vessel/flight no. and date		Port and place of loading		Shipper's declaration I hereby declare that the contents of this consignment are fully and accurately described below by the proper shipping name and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to the applicable international and national government regulations.			
Port/Place of discharge		Destination					
Shipping marks		Number and kind of packages; description of goods		Gross mass		Net mass	
USMF-000084		4.00 Bag/s of 25kg / P002 IBC07 4 PSN: SODIUM CYANIDE, SOLID		100.40		100.00	
USMF-000084		128.00 Plastic bottle of 1L 128 PSN : UN1824 - HYDROXYDE DE SODIUM EN SOLUTION		166.40		161.28	
Container identification no./Vehicle registration no.		Seal number (s)		Container/Vehicle size & type		Tare	
						0	
Container/Vehicle packing certificate				Receiving organization receipt			
Name of company Contoso Entertainment System USA				Shipper's preparation			
Name/Status of declarant		Vehicle reg. no.		Name/Status of declarant			
Place and date		Signature and date		Place and date			
Signature of declarant		Driver's Signature		Signature of declarant			

Example of a road transportation declaration:

Carriage of Merchandise by Road				Page 1 of 1 9/3/2026	
Consignor Warehouse Address 321 North Steet, Gate 3 Tacoma WA 98401			USMF-000022		
Consignee Contoso Retail San Diego 456 Peach Road San Diego CA 92114			Carrier details DHL		
Carrier pick up Warehouse Address 321 North Steet, Gate 3 Tacoma, WA 98401 USA 9/1/2026			Successive carriers successive carrier HHHHHH		
Delivery of goods Contoso Retail San Diego 456 Peach Road San Diego, CA 92114 USA 9/1/2026			Carrier observations carrier observation zzzzzzz		
Consignor instructions Consignor instruction blabla			Documents Document 4566,5665,5555		
Marks/Nos	Number of packages	Method of packing	Nature of goods	Gross weight	Volume
			Number of loaded objects	26.40	21.02
000126	4.00	ea	UN1689 SODIUM CYANIDE, SOLID, 6.1, I, (C/E), ENVIRONMENTALLY HAZARDOUS	25.10	20.00
000076	128.00	ea	UN1824 SODIUM HYDROXIDE IN SOLUTION	1.30	1.02
			ADR value	5384.00	
Special agreements special agreement abcd			Payments Payment terms XXX		
Other useful Particular Other useful information RRRRRRRR			Cash on delivery		
CMR convention CMR convention ref BBB					
Shipping location Shipping location xyz					
Consignor stamp			Carrier stamp		Consignee stamp
	132			26.4	21.02

Example of a shipper's declaration:

DÉCLARATION DE L'EXPÉDITEUR POUR LES MARCHANDISES DANGEREUSES								Page 1 of 1	
Expéditeur Contoso Entertainment System USA 123 Coffee Street Suite 300 Redmond, WA 98052 USA		ID de la lettre de fret aérien USMF-000031		N° de référence de l'expéditeur (facultatif)					
Consignataire Contoso Retail San Diego 456 Peach Road San Diego, CA 92114 USA									
DETAILS CONCERNANT LE TRANSPORT This shipment is within the limitations prescribed for: (delete non-applicable) PASSENGER AND CARGO AIRCRAFT CARGO-AIRCRAFT-ONLY Aéroport de destination (facultatif) :				AVERTISSEMENT Avertissement de l'expéditeur ZZZZZZ Type d'expédition : (supprimer non applicable) NON-RADIOACTIVE RADIOACTIVE					
Numéro d'unité	Nom approprié pour l'expédition	Classe	Division	Groupe d'emballage	Nombre et type d'emballage, quantité	Instructions d'emballage	Autorisation		
UN1824	UN1824 - SODIUM HYDROXIDE IN SOLUTION	Class 8	8	II	6 x Bouteilles plastique de 1L	A3, A803			
Informations de traitement supplémentaires Informations supplémentaires modifiables sur la déclaration.....									
Déclaration de l'expéditeur pour le pied de page						Nom du signataire			
						Date			
						Signature			

Other reports round out this set, such as the shipment summary and the verified gross mass declaration. Hazardous materials information can also enrich the bill of lading and the packing list through the addition of “Hazardous materials” columns.

Assisted generation

Microsoft has opted for a semi-automatic approach. Declarations are generated from the data held in the system and are then saved in dedicated tables. Users can review, complete, or correct them before the final printing. This logic suits a domain in which a business review often remains indispensable.

Finance and Operations

Search for a page

USMF | Contoso Entertainment System USA

←

Edit

+ New

Delete

Multimodal dangerous goods items

Print

Options

Standard view

Filter

USMF-000001

USMF-000031

8/28/2026 1:20:26 PM

USMF-000002

USMF-000032

8/28/2026 1:27:08 PM

USMF-000011

USMF-000034

8/31/2026 7:08:29 PM

USMF-000012

USMF-000055

8/31/2026 8:13:48 PM

USMF-000021

USMF-000080

9/4/2026 3:03:48 PM

USMF-000022

USMF-000083

9/1/2026 6:50:25 PM

USMF-000023

USMF-000084

9/4/2026 12:04:21 PM

USMF-000024

USMF-000086

9/4/2026 2:15:08 PM

Multimodal dangerous goods

Multimodal dangerous goods ID

Shipment ID

Created date and time

USMF-000023

USMF-000084

9/4/2026 12:04:21 PM

General

Additional handling information

Containers/Vehicle packing certificate

Port/place of loading

Company name

Container identification No./vehicle re...

Destination

Movement

Name of company (Shipper preparing ...

Container tare weight

Port/place of discharge

Receiving organization receipt

Container/vehicle size & type

Forwarder

Seal numbers

Freight

CARRIER

Carrier service

Freight Forwarders reference

Transport date

Shipping carrier

STANDARD

Vessel/flight no.

DHL

Addresses

DELIVERY ADDRESS

SHIP FROM

Delivery address

Ship from

Contoso Retail San Diego

Warehouse Address

Finance and Operations

Search for a page

USMF | Contoso Entertainment System USA

←

Edit

+ New

Delete

Options

Multimodal dangerous goods item | USMF-000023 : USMF-000084

Standard view

Filter

Multimodal dangerous go...	Item number	Description	Net weight	Gross weight	Volume
USMF-000023	000126	4.00 Bag/s of 25kg / P002 IBC07 4 UN 1689 SODIUM CYANIDE, SOLID, 6.1, I MARINE POLLUTANT/ENVIRONMEN...	100.00	100.40	80.00
USMF-000023	000076	128.00 Plastic bottle of 1L 128 UN1824 SODIUM HYDROXIDE IN SOLUTION	161.28	166.40	130.56

Bilingual handling

According to the Microsoft documentation, declarations can be produced in a domestic language and in a foreign language, which makes exchanges easier with carriers, freight forwarders, and authorities located in other countries.

5. Calculation and analysis features that are often overlooked

The ADR points calculation

The system can automatically calculate ADR points from the product information and the quantities on the shipment lines, and then aggregate the results in certain summary documents. Although the details of the algorithm are only lightly documented with concrete cases, this function is a useful operational aid when preparing the checks associated with road transportation.



Contoso Entertainment System USA
123 Coffee Street
Suite 300
Redmond, WA 98052
USA

Shipment Summary Document

Shipment numberUSMF-000084

Destination456 Peach Road
San Diego, CA 92114
USA

Carrier

Transport Category	Packages	Weight	Points
1	4	100.40	5,000.00
2	128	166.40	384.00
Summary	132	266.8	5384

Analysis pages that are often forgotten

The “Hazardous materials” page provides a consolidated view of the products concerned. The filterable grids make it possible to identify products in the same hazard class, falling under a given regulation, or using the same emergency response code.

Finance and Operations													
Search for a page													
USMF Centoso Entertainment System USA													
Hazardous materials													
Hazardous materials													
Filter													
Item number	Regulati...	Identification	Technical name	Proper shipping name	Class	Division	Packing group	Packing ...	Hazardous ...	Envir...	Mari...	Transport...	Haz...
000076	ADR	UN1824		PSN: UN1824 - SODIUM HYDROXIDE IN SOLUTION	Class 8	8	II	PLBTL1L	8(3)			2	
000076	IATA	UN1824		PSN : UN1824 - SODIUM HYDROXIDE IN SOLUTION	Class 8	8	II	PLBTL1L	8(3)				ERG 8L
000076	IMDG	UN1824		PSN : UN1824 - HYDROXYDE DE SODIUM EN SOLUTION	Class 8	8	II	PLBTL1L	8(3)				A Ems F-A/S-B
000101	ADR	UN1759	PotDicyaAg	PSN : UN 1759 CORROSIVE SOLID, N.O.S. (POTASSIUM DIC...	Class 8	8	II	BAG25	8			2	
000126	ADR	UN1689-ADR		UN1689 SODIUM CYANIDE, SOLID	Class 6	6.1	I	BAG25	6.1(3)	✓	✓	1	
000126	IATA	UN1689-IATA		PSN : Sodium cyanide, solid	Class 6	6.1	I	BAG25	6.1(3)	✓	✓		ERG 6L
000126	IMDG	UN1689-IMDG		PSN: SODIUM CYANIDE, SOLID	Class 6	6.1	I	BAG25	6.1(3)	✓	✓		B EmS F-A/S-A
000127	ADR	UN1263f		PSN : PAINT	Class 3	3	III	DRUM4.5	3			3	
000127	IMDG	UN1263f		PSN : PAINT	Class 3	3	III	DRUM4.5	3 (9)				A
M0018	ADR			SODIUM HYDROXIDE, SOLID	8	-	II						

The “Hazardous materials stock limits” page compares the available quantities with thresholds defined at product level (on the “Reporting details” page). This function, strongly oriented toward certain North American regulations, does not allow thresholds to be set by site or warehouse. It nevertheless provides a monitoring baseline that can be used without any custom development.

←	Edit	Item CAS relations	Update quantities	Options	🔍
000126 : HM SODIUMCYANIDE Standard view ▾					
Reporting details					
Compliance data					
COMPLIANCE PRODUCT NAME		EPA REPORTING	Release determination	OSHA	HAZARDOUS MATERIAL
EPCRA product name		TRI threshold		OSHA product name	Hazardous stock limit
Sodium Cyanide (EPCRA)		300.00		Sodium Cyanide (OSHA)	1,000.00
TSCA product name				OSHA threshold quantity	Hazardous warning limit
Sodium Cyanide (TSCA)				100.00	700.00
CERCLA			Usage	EHS QUANTITIES	
CERCLA product name				EHS reportable quantity	
Sodium Cyanide (CERCLA)				0.00	
CERCLA reportable quantity				EHS threshold planning quantity	
200.00				0.00	
Usage data					
Item number	USAGE DATA	Yearly quantity produced	Yearly quantity used		
000126	On-hand quantity	0.00	0.00		
	496.00				
			Yearly production volume		
			0.00		

Finance and Operations					
Search for a page					
Options					
Hazardous materials stock limits					
OSHA reportable					
Filter					
Item nu...	OSHA product name	OSHA threshold quantity	On-hand quantity	Net weight	Hazardous material
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000101	Potassium cyanide (OSHA)	500.00	390.00	25.00	✓
000126	Sodium Cyanide (OSHA)	100.00	496.00	25.00	✓
000126	Sodium Cyanide (OSHA)	100.00	496.00	25.00	✓
000126	Sodium Cyanide (OSHA)	100.00	496.00	25.00	✓
000126	Sodium Cyanide (OSHA)	100.00	496.00	25.00	✓
000126	Sodium Cyanide (OSHA)	100.00	496.00	25.00	✓
Total					
18 rows					

6. An application framework with a few points to watch

The main conclusion is clear: the Hazardous materials module as delivered by Microsoft should be regarded as an application framework rather than as a complete regulatory solution ready for use.

The standard already provides a dedicated data model, reference tables, maintenance and inquiry pages, import and export entities, several documents, calculation mechanisms, and integration with warehouse management.

That same standard also comes with a few obvious limitations, among which the following can be mentioned: unit weights and volumes prefilled on the road transportation declaration instead of the total values, no automation between the transport category and the multiplier used for the ADR points calculation, and a lack of tables and fields to manage packing instructions and special provisions. This list is not exhaustive, and other gaps may be identified depending on the regulatory contexts encountered.

And Microsoft probably does not intend to cover every specific requirement of each country, regulation, industry, or carrier. Depending on the context, a few adaptations may be needed to enrich the data, automate certain processes, or extend the standard documents.

Conclusion

Before looking into this functionality in depth, I expected to find a fairly limited module, essentially intended to store a few regulatory attributes on products. My view today is quite different.

The Hazardous materials module is probably one of the least known features of Dynamics 365 Supply Chain Management. Without claiming to replace a specialized regulatory solution, it already offers a complete functional foundation: a dedicated data model, multi-regulation management, calculation mechanisms, declaration documents, and native integration with logistics processes.

As is often the case in Dynamics 365 F&O, Microsoft provides solid foundations here rather than a fully finished business solution. Depending on the needs of the company and on its level of regulatory requirements, complementary extensions or automations can naturally be considered.

Microsoft references

Microsoft source: [Hazardous materials overview](https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-overview) — <https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-overview>

Microsoft source: [Set up hazardous materials](https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-setup) — <https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-setup>

Microsoft source: [Hazardous materials in products, orders, shipments, and loads](https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-items) — <https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-items>

Microsoft source: [Hazardous materials inquiries and reports](https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-reports) — <https://learn.microsoft.com/en-us/dynamics365/supply-chain/pim/hazmat-reports>