

# Sodium azide (CAS No. 26628-22-8)

## Inventory Multi-tiered Assessment and Prioritisation (IMAP)

Prior to July 1, 2020, industrial chemicals were assessed by the former National Industrial Notification and Assessment Scheme under the Inventory Multi-tiered Assessment and Prioritisation (IMAP) framework. The framework objectives were to:

- identify and rapidly assess existing chemicals of concern;
- improve chemical safety information flow and chemicals management; and
- deliver a flexible and transparent approach that was more responsive to the needs of industry, community and government stakeholders for the large number of chemicals on Australian Inventory of Chemical Substances (AICS) still requiring assessment.

The framework was a science and risk based framework for the assessment and prioritisation of industrial chemicals listed on what was then known as the Australian Inventory of Chemical Substances (AICS). It consisted of three tiers of assessment, with the assessment effort increasing with each tier. Information about a chemical's hazardous properties, as well as the nature and extent of its usage, was employed to characterise risk. More information about the framework can be accessed [here](#).

### Tier 1 Assessment

The primary aim of Tier 1 assessment was to identify chemicals that were not expected to pose a concern to workers, public health or the environment.

The Tier I human health assessment took into account both the intrinsic hazard of the chemical and potential human exposure. As such, where hazardous chemicals were used in a controlled and restricted manner, with little or no exposure to workers and the public, they were considered to be of low risk and were not further assessed.

Risk characterisation in Tier I assessment used a hazard-exposure matrix. The matrix had five hazard bands representing different severities of hazard indicators, and five exposure bands (see Figure below). There was an increase in the hazard indicator severity from hazard band zero (no indication of hazard) to hazard band four. Similarly, the highest and lowest potential for exposure were bands four and zero respectively.

### Exposure information

Exposure bands gave an indication of the potential relative exposure to a chemical. An exposure band was assigned using information on the amount of an individual chemical being introduced into Australia and its uses.

Although exposure to the public and workers were considered separately, the highest exposure band from each of these considerations was used for risk characterisation for any given industrial chemical.

## Hazard information

To allocate a hazard band for an industrial chemical, hazard information was compared against the agreed criteria). Where an industrial chemical meets the criteria for any hazard indicator, the industrial chemical was then placed in the highest relevant hazard band.

## Validated Tier I assessment

The exposure and hazard information identified was used to characterise the risk to human health and/or the environment from industrial use of the chemical. The risk characterisation was validated prior to finalising a Tier I assessment outcome, which included:

- cross checking chemicals not expected to pose a concern against national/international lists of concern chemicals;
- peer reviewing chemicals not expected to pose a concern by a qualified regulatory scientist; and
- undertaking a preliminary chemical-by-chemical evaluation on a particular aspect of the assessment for example exposure, where this had a potential to change the outcome of the Tier I assessment.

## Sodium Azide assessment (Tier I)

Sodium Azide is a hazardous chemical which was assigned hazard band 3 based on the sources of information listed directly below.

Tier One Assessment Hazards	
Source	Value
EUCLP	Acute Tox. 1&2 (oral); H300
HSIS	28
NZEPA	6.1B (check route)
OECDToolboxEXPData	
Summary	Endpoint met Prioritisation Criteria at Tier I
TOPKATQSAR	Inconclusive

"28" in the above table refers to the Risk Phrase, "**R28 - Very toxic if swallowed**", assigned to sodium azide by the previously used classification system - Approved Criteria for Classifying Hazardous Substances.

## Screenshot of the Tier I Assessment details on the AICIS website

In Australia, at the time of the assessment the industrial chemical had site limited use in a very controlled, enclosed system, resulting in minimal exposure of workers and the general public to the industrial chemical (Refer to screenshot below).

### Sodium azide (Na(N<sub>3</sub>))

**Date:** 4 July 2014

**CAS number:** 26628-22-8

**CAS name:** Sodium azide (Na(N<sub>3</sub>))

**Focus:** Health

**Type:** IMAP tier I assessment- NICNAS

**Highest use category:** Site Limited

**Risk:** Poses no unreasonable risk to human health based on Tier I assessment under the NICNAS IMAP assessment framework

Based on the site limited use, the industrial chemical was assigned Exposure Band 1 (Refer to matrix below - blue square). Tier I assessment of sodium azide; therefore, concluded that it posed no unreasonable risk to workers handling the chemical or to the general public.

		Exposure Band				
		0	1	2	3	4
Hazard Band	0					
	1					A
	2				B	C
	3			D	E	F
	4		G	H	I	J



## Validation of Sodium Azide assessment:

The assessment outcome (Tier 1) was validated according to the process outlined above.

Validation Comments:	
<p>NICNAS call for information - Mandatory Feb 2004 (Section 48):</p> <ul style="list-style-type: none"><li>• 2.018 tpa</li><li>• Manufacture of lead azide explosives</li></ul> <p>HSIS:</p> <p>R28 - consistent with ECHA C&amp;L classification and REACH dossier</p> <p>REACH dossier additionally classified as fatal in contact with skin.</p> <p><a href="http://apps.echa.europa.eu/registered/data/dossiers/DISS-9eaa056f-f588-474e-e044-00144f67d031/AGGR-9fbe4e22-00d7-4202-8655-b6ff2e2f6896_DISS-9eaa056f-f588-474e-e044-00144f67d031.html#L-0d5f3608-a726-460c-a5a7-6a3537ec0eb5">http://apps.echa.europa.eu/registered/data/dossiers/DISS-9eaa056f-f588-474e-e044-00144f67d031/AGGR-9fbe4e22-00d7-4202-8655-b6ff2e2f6896_DISS-9eaa056f-f588-474e-e044-00144f67d031.html#L-0d5f3608-a726-460c-a5a7-6a3537ec0eb5</a></p> <p>Reach dossier indicates used in a closed system or as an intermediate.</p> <p>Question for s22</p> <p>Could you please review the use information and advise whether this is commercial or intermediate/site-limited use?</p> <p>s22 comment</p> <p>I would consider manufacture of detonators to be a highly controlled site limited activity. Band 1.</p>	
Exposure Summary:	Exposure Band: 1
Site-limited use only	
Hazard Summary:	Hazard Band: 3
Acutely toxic by ingestion and potentially if in contact with skin	
Recommendation:	Tier One