OncoLogic Justification Report



SUMMARY :

CODE NUMBER : JAADA2

SUBSTANCE ID :

The final level of carcinogenicity concern for this acrylamide when

the anticipated route of exposure is inhalation or injection is

MODERATE.

JUSTIFICATION:

An acrylamide is a potential alkylating agent which may bind, via

Michael addition, to key macromolecules to initiate/exert

carcinogenic action. The alkylating activity of acrylamides can be

substantially inhibited by substitution at the double bond,

particularly by bulky or hydrophilic groups. The nature and

molecular size/shape of the molecule to which the acrylamide is

attached may also play a role in affecting the overall activity of

the compound.

The acrylamide is stable and has a baseline level of concern of

LOW-MODERATE.

The molecule to which the acrylamide is attached, which is denoted as

R1, is not expected to significantly affect the level of concern.

The molecule to which the acrylamide is attached, which is denoted as

R2, is not expected to significantly affect the level of concern.

Therefore, the level of concern remains LOW-MODERATE.

In general, inhalation and injection provide the best chance of

delivering the largest possible amount of direct-acting reactive

chemicals to target tissue because of a lesser absorption barrier and

better chance of avoiding detoxification by protective nucleophiles

such as glutathione. Since the exposure to this compound is expected

to be by one or both of these routes, the level of concern is

expected to be increased.

Therefore, the level of concern is raised to MODERATE.

The final level of concern when the anticipated route of exposure is

inhalation or injection is MODERATE.